
START 3

Superfund Technical Assessment and Response Team 3 -
Region 8



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SAMPLING ACTIVITIES REPORT

**HELENA CHEMICAL COMPANY
Mission, Hidalgo County, Texas**

TDD No. 0509-34

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URS
OPERATING SERVICES, INC.

In association with:

**TechLaw, Inc.
LT Environmental, Inc.
TN & Associates, Inc.
Garry Struthers Associates, Inc.**

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1.0 INTRODUCTION

This Sampling Activities Report (SAR) is submitted in accordance with the task elements specified in Technical Direction Document (TDD) number 0509-34. This TDD was issued on September 21, 2005, under contract number EP-W-05-050 issued to URS Operating Services, Inc., (UOS) Superfund Technical Assessment and Response Team 3 (START 3) in Region 8 of the U.S. Environmental Protection Agency (EPA). This report includes sample analytical data and describes sampling activities that occurred at the former Helena Chemical Company (HCC) pesticide mixing facility located at 602 Holland Avenue in Mission, Hidalgo County, Texas. Sampling activities were performed under Contract number 68-W-00-118 during August 23 to 26, 2005, and included subsurface soil, building interior, storage tank, and ambient air sample collection. Buildings investigated include a Shed, Warehouse, and Mixing Plant. All samples were analyzed for organochlorine pesticides.

A site reconnaissance was performed by START on July 12 and 13, 2005, with EPA and Texas Commission on Environmental Quality (TCEQ) representatives. The purpose was to gain an understanding of the site physical constraints and characteristics, and to help develop a viable sampling approach to investigate the site. Discussion of the site status and history took place at the Mission City Hall on July 12, 2005. Attendees included the Mayor, Interim City Manager, Planning Department personnel, City Attorney, a representative of U.S. Representative Lloyd Doggett, EPA, TCEQ, and START personnel.

2.0 BACKGROUND

The HCC facility located in Mission, Texas, was used for pesticide formulation from 1950 to 1972. The facility is located in a primarily residential neighborhood and currently incorporates five structures within the property boundary (Figure 1). Soil samples collected in 1980 from the HCC site and surrounding areas indicated elevated concentrations of various pesticides (Shaw Environmental, Inc. (Shaw) 2004). A lawsuit was filed on behalf of the EPA against the two former owners of the facility, HCC and the Tex-Ag Company. As a result of the lawsuit, the former owners entered into a Consent Decree to remediate the contaminated properties. In 1982 the most highly contaminated soils on the HCC facility site were excavated to a depth of six inches below ground surface (bgs) and buried on site within a soil repository. The repository was capped by a six-inch layer of caliche that was overlain by a one-inch layer of asphalt. Neighboring properties were also remediated at that time. In 1983 a Federal District Judge in Brownsville, Texas, ruled that all cleanup activities specified in the Consent Decree had been carried out (Shaw 2004).

From December 2002 through February 2003 the TCEQ conducted soil and groundwater sampling at the HCC site as part of a larger investigation pursuant to remediation efforts of surrounding residential and commercial properties. Those sampling activities included the installation of six temporary piezometers (now removed), six soil borings, and surface soil sampling at seven other locations. Laboratory analytical results from that sampling effort indicated that organochlorine pesticides were present at several locations in concentrations exceeding the Texas Risk Reduction Program Rule (TRRP), Tier 1 Protective Concentration Limits (PCL) for Commercial/Industrial sites (Shaw 2004).

The Texas Risk Reduction program establishes tiered processes for determining human health and ecological protective concentration levels for chemicals of concern (COC). The TRRP PCL development process is patterned after the ASTM International risk-based corrective action process. A PCL is the regulatory standard for a concentration of a COC that must be achieved in the source medium (e.g., soil, groundwater, sediment) in order to protect a receptor at the point of exposure to that COC (Texas Commission on Environmental Quality (TCEQ) 2005). The PCL values are predicated upon inhalation, ingestion, and dermal pathways. The 30-acre source area PCL values are appropriate for the Helena Chemical site (approximately 6 acres) because the other available comparison standard (0.5-acre) is typically applied to residential lots. Similar PCL benchmark values for interior wipe samples were not available to START.

Historic aerial photographs of the site were obtained by START that depict the site in February 2002, December 1961, and September 1972 (Figures 2, 3 and 4). The photos were consulted for the strategic placement of soil coring locations by START.

3.0 SITE ACTIVITIES

Site sampling activities were performed by START from August 23 to 26, 2005. START sample locations are presented on Figures 2 and 5 through 9. Photo documentation is presented in Appendix A. Sampling activities were performed in personal protective equipment (PPE) levels D, C, and B, as appropriate. All samples were collected using dedicated sampling equipment with the exception of soil core sampling operations where a core barrel cutting shoe and stainless steel sampling spoon were decontaminated after each use. An equipment rinsate sample was obtained from a cutting shoe and sampling spoon to ensure that cross contamination did not occur from sampling equipment. Only laboratory cleaned and certified sample bottles were used by START during sample collection procedures. Sample locations, where physically possible, were surveyed for mapping purposes by using a

Trimble® Global Positioning System (GPS) unit that surveys the physical location by satellite triangulation to within less than one meter of accuracy.

Weather conditions on site included relatively cool mornings with temperatures in the 78°F range, but increasing in the afternoons to the 100°F range with humidity ranging from 53% to 94%. There was no precipitation at the site during sampling operations. News reporters and film crews were observed intermittently at the site by START, and all interviews were handled by EPA representatives. A trailer was mobilized to the site to serve as a command post and equipment staging area for START and was powered (cooled) by a dedicated diesel powered generator. A Daewoo® G25E fork-lift and JLG® 400S man-lift with a 40-foot reach were also mobilized to the site and used to move heavy materials, to enable access to high sampling locations within the buildings, and to assist in accessing the aboveground storage tanks (ASTs). Both lifts were operated by a licensed technician.

3.1 SUBSURFACE SOILS

Subsurface soil was sampled by use of a Geoprobe®, a truck-mounted hydraulically powered direct push sampler, which obtained a 1.5-inch diameter soil core as a steel core barrel was pushed into the ground. Soil cores were collected in dedicated poly vinyl chloride sleeves, which lined the steel core barrel, therefore ensuring sample integrity. The hammering capability of the Geoprobe® allowed it to penetrate hard surfaces such as concrete floors and the asphalt/caliche cap overlying much of the area of investigation. Therefore, START obtained soil cores from underneath building floors and within the capped area on site. Core holes were backfilled with excess core material that had been removed from the core hole. Any remaining void was backfilled by pouring granular bentonite directly from the manufacturers' bag. Asphalt patch material was then placed into the core hole from the ground surface to a depth of approximately four inches, which sealed the core hole from weather influences. In instances where the core hole was located outside of the capped area the core holes were sealed at the ground surface with bentonite only. Geologic core logs are presented in Appendix B.

One hundred twenty-eight soil core samples were obtained from 24 soil core locations on site (Figure 2). Soil core locations were spatially distributed in an effort to investigate the cap interior, cap perimeter, underneath buildings, and the AST area. Two background (off-cap) locations were also investigated by START, which were locations previously cored and sampled by Ecology & Environment, Inc. (E&E) during 2003 (E&E 2003). Those locations, HC-SO-01 and HC-SO-02, were sampled in an attempt to replicate data results obtained by E&E during their

investigation of the northern (off-cap) portion of the HCC site area. Data obtained during this investigation, combined with the E&E-derived subsurface soils data that was obtained from 31 soil core locations in the off-cap area, allowed for a comprehensive analysis of the entire site.

Following geologic interpretation by a geologist, soil samples were obtained from the recovered soil cores by shaving soil from the side of the soil core at the time of core collection with a decontaminated stainless steel spoon. A one-foot or two-foot core interval, as appropriate, was sampled and the soil was placed into dedicated glass sample jars. Sample intervals were typically 0-1, 1-2, 2-3, 3-4, 4-6, 6-8 and 8-10 feet bgs. Sixteen soil core locations were sampled to a maximum depth of 4 feet bgs, five locations to a maximum depth of 10 feet bgs, and three locations to maximum depths of 5 feet and 8 feet bgs.

A MultiRae[®] gas contaminant instrument was used during soil coring activities to determine if volatile organic gases were present in the core samples. The MultiRae[®] detects volatile gases, the lower explosive limit (LEL) of volatile gases, hydrogen sulfide (H₂S), carbon monoxide (CO), and oxygen (O₂) gas levels. No volatile organic gases were detected in the soil cores. All soil coring activities were performed in PPE level D.

3.2 BUILDING INTERIORS

The interiors of three buildings on site were sampled by the wipe sample method, a procedure by which suspected contaminants are removed from a surface with a sterile gauze pad for laboratory analysis. Sampling was performed in PPE level D. Because the building interiors are filled with various equipment, vehicles, recyclable materials, and debris, a man-lift was used to reach over stored materials and otherwise inaccessible areas such as high walls and ceilings. A fork-lift was also used inside the Mixing Plant to move a minimal amount of equipment such as palletized materials and large equipment in order to improve the maneuverability of the man-lift and Geoprobe[®]. A fiberglass ladder was also employed while sampling. These pieces of equipment were each used in appropriate situations in an effort to obtain wipe samples from locations considered to be the most representative of the area being investigated, although access to some desired locations was still not possible. All wipe sampling substrates consisted of smooth, sometimes dusty, concrete, glass, unpainted brick, painted brick/wood, or metal.

To obtain a wipe sample a 3-inch by 3-inch sterile gauze pad was wetted by spraying with a 99.9 % pure high-pressure liquid chromatography (HPLC) methanol solvent that is certified for

pesticide residue analysis. The wet (not dripping) gauze pad was either wiped or dabbed, depending on the smoothness of the substrate being sampled, vertically and horizontally across a one-square-foot area as delineated by a dedicated paper template. The gauze pad was remoistened with methanol solvent during the sampling process as needed to maintain wetness. Actual samples obtained from the sample areas inside the buildings typically consisted of five aliquots. For example; five locations were selected within a sample area that best represented the area being characterized. Those locations typically formed the pattern similar to the "5" side of a die. Separate gauze pads were used at each sample aliquot location and collectively placed into a glass jar for analysis by the laboratory as one sample. Hence, a single wipe sample submitted to the laboratory for analysis typically consisted of five gauze pads that had been used to remove, with the aid of a methanol solvent, potential contamination from five locations, each being one square foot in size. Although the locations and number of aliquots per sample were adjusted in the field according to physical constraints, the aliquot size (one square foot) remained consistent, with the exception of the Mixing Plant ceiling. Placement of the one square foot sampling template included cracks, joints, window moldings, etc., in an effort to be representative of the area being sampled. Forty-two wipe samples were obtained from the building interiors.

The Mixing Plant building on site was distinguished by having a north and a south side, defined by a brick wall that separates the two areas of the building. The North and South Mixing Plant building floors, walls, and ceilings were treated as distinct units with regard to sampling zones and were further characterized by dividing the large units into smaller areas in order to create a sampling approach that afforded a great deal of scrutiny. For example, the floor within the North Mixing Plant was partitioned into six equal areas, each no more than 2,500 square feet in size, while the east and west walls (150 feet long) were partitioned into three sections rather than single wall units (Figures 5, 6, and 7).

The ceilings within the Mixing Plant are constructed of unpainted wood that becomes very hot and dry and may have potential to absorb contaminants. Therefore wood slivers were obtained from the ceilings and submitted for laboratory analysis. That type of procedure was inappropriate for the floors and walls as it could not be performed without causing significant damage. The floor and wall materials also do not possess the same potential absorbing qualities of dry wood.

Because of its smaller size, as well as accessibility issues caused by congested equipment storage, the Warehouse was divided into distinct sampling units consisting of walls, floor, and ceiling

(Figure 8). The Shed, located near the south boundary of the site, was treated as a single sampling unit because of its small size, i.e., 200 square feet (Figure 9).

3.3 ABOVEGROUND STORAGE TANKS

Two aboveground storage tanks are located in the southwest corner of the site and are surrounded by a six-foot high chain-link fence (Figure 2). They are aligned parallel in an east-west direction in a horizontal fashion, and are each suspended in metal cradles approximately five feet above the ground surface. The tanks are each approximately 18 feet long. The north tank has a diameter of eight feet, and the south tank has a diameter of 10 feet. A dilapidated metal catwalk spans the tanks. Both tanks are wrapped in an approximately one-inch thick insulating layer. An apparent motor and piping mechanism are present within the fenced boundary that may have been used to circulate heating/cooling fluids around the tanks. It is not obvious whether the tanks were insulated for cooling or heating purposes. No piping or baffles were observed inside the tanks. The ends of the tanks are exposed, have pitted and scaled surfaces, and are observed to have been riveted together, a construction practice dating to approximately the 1930s or earlier.

The tank interiors were investigated by START on August 24 with the aid of a man-lift to gain access to piping/valving located on the center top of each tank. Investigation operations were performed from the man-lift and not physically on top of the tanks. City of Mission Police, Fire, and Ambulance crews were present during all tank sampling operations. Police closed adjacent streets, and had all near-by vehicles moved. Initial investigation activities at the ASTs were performed by START in PPE level B, with a wet decontamination station and PPE level B equipped backup personnel in place. Threaded pipe end caps were removed from piping at the top of each tank and dedicated Sludge Judge[®] sample-thieving probes were inserted into each tank to determine their contents. The north tank pipe opening was 2.5 inches in diameter, and the south tank pipe opening was 3.5 inches in diameter. The south tank access port was initially secured with a padlock, which had to be cut off by START. Upon opening, the vapors present within each tank were monitored with a MultiRae[®] gas contaminant instrument for volatile gas vapors, LEL, H₂S, CO and O₂ gas levels. All readings were at background levels. A “smoke cutter” flashlight was used to visually investigate the tank interiors. The south tank was observed to be dry. A thin film of a flaky dried material was observed on the bottom of that tank, and appeared by START to be flakes of oxidized metal from the tank walls. The north tank contained a layer of single-phase oily liquid approximately one inch deep at its deepest point with a surface approximately 16 inches wide, calculated by START to be approximately 12 gallons.

Because the threat posed by the tank contents appeared to be minimal, the PPE level was downgraded to level C for sampling operations. PPE level C improved sampler mobility and comfort while not compromising safety. The liquid inside the north tank was too shallow to sample with a Sludge Judge[®]; however, START was able to obtain a sample by attaching sterile gauze pads to the end of the Sludge Judge[®] to absorb liquid that was then pressed into a sample jar by hand. Three entries with the apparatus were required to obtain four ounces of the oily liquid. There was no spillage. Following sample collection the Sludge Judge[®] apparatus was left inside the tank, and the threaded end caps on both tanks were replaced.

During the initial investigation with the Sludge Judge[®], and upon sample collection, the liquid inside the tank appeared to be single-phase low viscosity oil. The oily liquid was an amber color at the time of sample collection but, after it was allowed to settle for several hours, a thin layer of sediment settled to the bottom of the sample jar and the color lightened significantly. START performed a flame test on the oily liquid after sample collection and determined it to be combustible.

3.4 AMBIENT AIR

Ambient air was monitored on site for dust emissions as part of routine safety procedures performed by START during on-site sampling activities. Two DataRAM[®] DR-4000 air sampling instruments were positioned at north and south locations on site (Figure 2). The air sampling locations were selected in an effort to incorporate sampling operations and possible site emission sources, while also taking into account the prevailing wind direction as determined at the time of instrument placement (up-wind and down-wind placement was desired). The DataRAM[®] instruments were placed on the ground surface, therefore biasing the samplers toward increased dust collection, versus placement of the instruments within the breathing zone approximately four feet aboveground surface where fewer dust particles are present.

The DataRAM[®] instruments were used for real-time air particulate monitoring on site where particulate size and amount were measured as air passed through a light scattering photometer detector chamber at a nominal two liters per minute sample rate. On August 26 the air samplers were also fitted with mixed cellulose ester (MCE) cassette filters in order to obtain samples of air particulate that could be analyzed by a laboratory for pesticide content.

4.0 SAMPLE ANALYSIS

During these sampling operations, 170 samples were collected and submitted for laboratory analysis. Samples were stored in coolers secured by custody seals and preserved by chilling with wet ice. Sample possession was maintained by START until sample shipment via Federal Express to the Paragon Analytics laboratory in Fort Collins, Colorado, for organochlorine pesticides analysis by EPA SW846 Method 8081A. Laboratory data were independently validated by TechLaw, Inc., Denver, Colorado, for completeness and accuracy. All data were found to be acceptable for the intended purposes. Validated data results are presented in Tables 1 and 2. Analytical laboratory data result reports are included in Appendix C. Validation reports are in Appendix D.

5.0 SAMPLE QUALITY CONTROL

Sample quality control is monitored in the field during sample collection as well as during laboratory analysis. Eighteen samples, presented in the table below, were collected during sampling operations and used for quality control purposes. They include an equipment rinsate blank sample obtained from a Geoprobe® cutting shoe that was routinely decontaminated during soil core collection operations. The sample was obtained by pouring laboratory-grade filtered and deionized water over a decontaminated cutting shoe, allowed to flow off the shoe, and then collected directly into a sample bottle for analysis. Equipment decontamination procedures included a Liquinox® soap/potable water wash followed by a triple rinse with potable water, a final methanol solvent rinse, and allowed to air dry. Upon laboratory analysis the rinsate sample did show negligible amounts of alpha-BHC, DDD, and DDT contamination (when compared to PCLs) of 28 parts per trillion (ppt), 46 ppt, and 85 ppt respectively.

Nine replicate samples were collected in order to confirm laboratory repeatability of data results. As a general rule, a replicate sample analysis is considered to be in good correlation when the relative percent difference (RPD) of the analytes being compared is less than 35% (for soils). In the case of the replicate data obtained for this (2005) investigation the highest overall RPD observed was 181%, the lowest observed was 5%, with the average equal to 67%. However, if the analytes that were affected by high dilution factors (DF), e.g., up to 20,000 DF, were removed from the data set (less contaminant measurement accuracy is realized as sample dilution is increased) and only those that had a more reasonable DF of 20 were included in the RPD comparisons, the high RPD would be 17%, the low RPD would be 6%, with the average being 13%, indicating very good correlation.

Additionally, a matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on eight samples by the laboratory. The MS/MSD analysis ensures that the sample matrix is not interfering with analyte recovery, which could result in an over-reported or under-reported analyte value. Other quality control measures are routinely performed in the laboratory such as method blank analysis, laboratory control spike/laboratory control spike duplicate analysis (LCS/LCSD) and surrogate analysis.

TABLE A
Quality Control Samples

Sample ID	Location	Sample Type
HC-GP-RS-1	Prepared in field during soil coring operations	Rinsate blank
HC-SO-02-3	Soil core location 02	MS/MSD
HC-SO-03-4	Soil core location 03	MS/MSD
HC-SO-06-4	Soil core location 06	MS/MSD
HC-SO-13-10	Soil core location 13	MS/MSD
HC-SO-16-8	Soil core location 16	MS/MSD
HC-SO-20-2	Soil core location 20	MS/MSD
HC-SO-22-6	Soil core location 22	MS/MSD
HC-TK-01	Aboveground storage tank	MS/MSD
HC-SO-01-4R	Soil core location 01	Replicate
HC-SO-05-8R	Soil core location 05	Replicate
HC-SO-06-3R	Soil core location 06	Replicate
HC-SO-07-2R	Soil core location 07	Replicate
HC-SO-11-3R	Soil core location 11	Replicate
HC-SO-13-2R	Soil core location 13	Replicate
HC-SO-24-2R	Soil core location 24	Replicate
HC-WP-NMP-WW-02R	North mixing plant	Replicate
HC-WP-SMP-FLR-01R	South mixing plant	Replicate

6.0 ANALYTICAL RESULTS

Reliable and usable analytical data derived from sampling operations conducted by START are summarized in Tables 1 and 2. All samples obtained on site were analyzed for 21 organochlorine pesticide compounds. Tier 1 Commercial/Industrial Soil PCLs for a 30-acre source area, as presented in the TRRP Rule, are included in Table 1 for comparison to observed soils contamination.

Each organochlorine analyte has a specific PCL benchmark level, and the respective Method Detection Levels (MDLs), Reporting Limits (RLs), and results reported on the Form 1s were adequate to meet those benchmarks for most of the analyte concentrations observed on site. However, some explanation of the laboratory reported data is warranted. Because laboratory methodology for the chemical analysis of organochlorine pesticides includes contaminant detection levels in parts per billion (ppb) (i.e. extremely

low detection), it is common for detected contaminant amounts to exceed the calibration range of the laboratory instrument. In those cases samples are diluted in the laboratory by a known Dilution Factor (DF) to achieve a contaminant concentration that may be observed within the calibration range of the laboratory instrumentation. However in doing so, the MDL is increased, in some cases to an amount greater than the PCL benchmark level, resulting in a Reporting Limit, and contaminant result, that are non-detect (U) at an amount that exceeds the PCL benchmark level. For example; a compound might be reported on the laboratory Form 1 as "100 U" (i.e., non-detect at a 100 ppb MDL) but the PCL for the compound may be 15 ppb, preventing the reviewer from accurately determining if the compound exceeded the PCL.

In cases where the minimum laboratory detection level exceeded the PCL benchmark level for a particular analyte, a reanalysis of that analyte was performed, and the revised results were presented on an additional Form 1 (included in Appendix C). The additional Form 1s are identified with a "RR" (re-run) in the Lab Identification number. The RL value reported on the Form 1 is established within the EPA-approved analytical methodology for contaminant analysis and reflects the required DF. However, contaminant amounts actually observed by the laboratory instrumentation are presented on the Form 1s as the MDL, and are incorporated into this report when appropriate.

6.1 SUBSURFACE SOILS

Soil cores were obtained from 24 locations throughout the site area, including underneath building floors. Subsurface soils were sampled to a maximum penetrated depth of ten feet bgs at 5 locations, four feet bgs at 16 soil core locations, and five to eight feet bgs at the remaining 3 soil core locations. Final core-hole depths were adjusted in the field based upon soil characteristics observed by the geologist at the time of core-hole advancement, with the goal of advancing the soil core to likely non-contaminated and undisturbed sediments. Soil core activities were performed on site in order of suspected least contaminated to suspected most contaminated in an effort to minimize potential cross contamination.

Two soil core locations, HC-SO-01 and HC-SO-02, were located at positions investigated in 2003 by E&E in an effort to validate prior results and to better understand the site (E&E 2003). Analytical results from the 2003 investigation are compared to this investigation in the table below with conflicting detection results highlighted by shading. Contaminant results are reasonably comparable; however, the 2005 data indicates low-level contamination not observed in 2003. This may be due to the non-homogeneity of the soils and contaminants being sampled,

and the probability that the soil core locations were not precisely duplicated. Differing analytical laboratories and laboratory instrumentation conditions may also contribute to differences in the data results. PCLs at the two replicated locations were not exceeded in either investigation. A laboratory results summary of all subsurface soil samples obtained by E&E is included in Appendix E with a map indicating sample locations. PCLs were not exceeded in any of the E&E subsurface samples.

Of the 128 subsurface soil samples obtained for this investigation, 35 (27%) indicated some organochlorine pesticide contamination in excess of the PCL benchmark values. However, contaminants exceeding the PCL benchmark values were not observed below three feet bgs, with the exception of two areas: a southeast portion of the site represented by soil cores HC-SO-14 and HC-SO-16 where beta-BHC and Dieldrin were detected at four feet bgs; and the area adjacent to the north end of the Warehouse and the east side of the Mixing Plant, where soil core HC-SO-05 indicated Dieldrin at eight feet bgs. Graph A below shows the most highly contaminated soil cores and illustrates the abrupt decline in contaminant amounts with depth. Also, the most commonly observed contaminant during this investigation was Dieldrin. And in order to present the spatial distribution of contaminants, isopleth maps showing Dieldrin concentrations within the 0-1, 1-2, 2-3, and 3-4 feet bgs intervals are included on Figures 10, 11, 12, and 13 respectively. Soil core HC-SO-16 is observed to represent the area of greatest observed contamination as indicated by a bulls-eye on the figures.

The subsurface does not appear to have been disturbed below approximately two feet bgs except in the southern portion of the site. The area that includes the soil cores mentioned above appears to have been disturbed to a depth of approximately four feet bgs. The AST area appears to have been disturbed to a depth of approximately seven feet bgs. Approximately six inches of asphalt was observed at a depth of two feet bgs at soil core location HC-SO-05, which may be a remnant of past material stockpiling activities at that location as observed in historical aerial photography (Figures 3 and 4). Competent brown silty clay was observed predominately throughout the site area at a depth of approximately four feet bgs, while plastic blue clay was observed intermittently at a depth of approximately 9 feet bgs. Clay deposits act as barriers to groundwater (contaminant) flow.

TABLE B
Replicate Sample Results Comparison
(Parts per billion (ppb))

Sample ID#:	HC-SO-01-1	230-180-1	HC-SO-02-1	96-297-1	HC-SO-02-2	96-297-2
Depth*:	UOS 2005	E&E 2003	UOS 2005	E&E 2003	UOS 2005	E&E 2003
Analyte	0-1	0-1	0-1	0-1	1-2	1-2
Alpha-BHC	1.2 U	1.8 U	0.42 U	2.0 U	4.3 U	2.0 U
Gamma-BHC	1.3 U	1.8 U	0.48 U	2.0 U	4.8 U	2.0 U
Beta-BHC	3.3 U	1.8 U	17	2.0 U	100	2.0 U
Delta-BHC	1.3 U	1.8 U	0.45 U	2.0 U	4.6 U	2.0 U
Heptachlor	1.9 U	1.8 U	0.68 U	2.0 U	7 U	2.0 U
Aldrin	4.7 U	1.8 U	1.7 U	2.0 U	17 U	2.0 U
Heptachlor Epoxide	1.7 U	1.8 U	0.6 U	2.0 U	6.1 U	2.0 U
Gamma-Chlordane	1.6 U	1.8 U	1.7 J	2.0 U	68 J	2.0 U
Alpha-Chlordane	1.6 U	1.8 U	0.58 U	2.0 U	20 J	2.0 U
4,4'-DDE	51	3.5 U	5.3 J	4.0 U	330	3.9 U
Endosulfan I	1.2 U	1.8 U	0.41 U	2.0 U	4.2 U	2.0 U
Dieldrin	1.6 UJ	3.5 U	5.2 J	4.0 U	140 J	3.9 U
Endrin	1.7 U	3.5 U	0.62 U	4.0 U	6.3 U	3.9 U
4,4'-DDD	4.2 U	3.5U	1.5 U	4.0 U	77	3.9 U
Endosulfan II	2.4 UJ	3.5U	0.85 U	4.0 U	8.7 U	3.9 U
4,4'-DDT	27	3.5 U	5.8 J	4.0 U	300	3.9 U
Endrin Aldehyde	5.2 UJ	3.5 U	1.8 U	4.0 U	19 U	3.9 U
Methoxychlor	14 U	18.0 U	4.9 U	20.0 U	50 U	20.0 U
Endosulfan Sulfate	2.9 UJ	3.5 U	1 UJ	4.0 U	10 UJ	3.9 U
Endrin Ketone	3.8 UJ	3.5 U	1.3 UJ	4.0	14 UJ	3.9 U
Toxaphene	160 U	180.0 U	58 U	200.0 U	590 U	200.0 U

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E&E Ecology & Environment, Inc. (E&E 2003).

* Feet below ground surface.

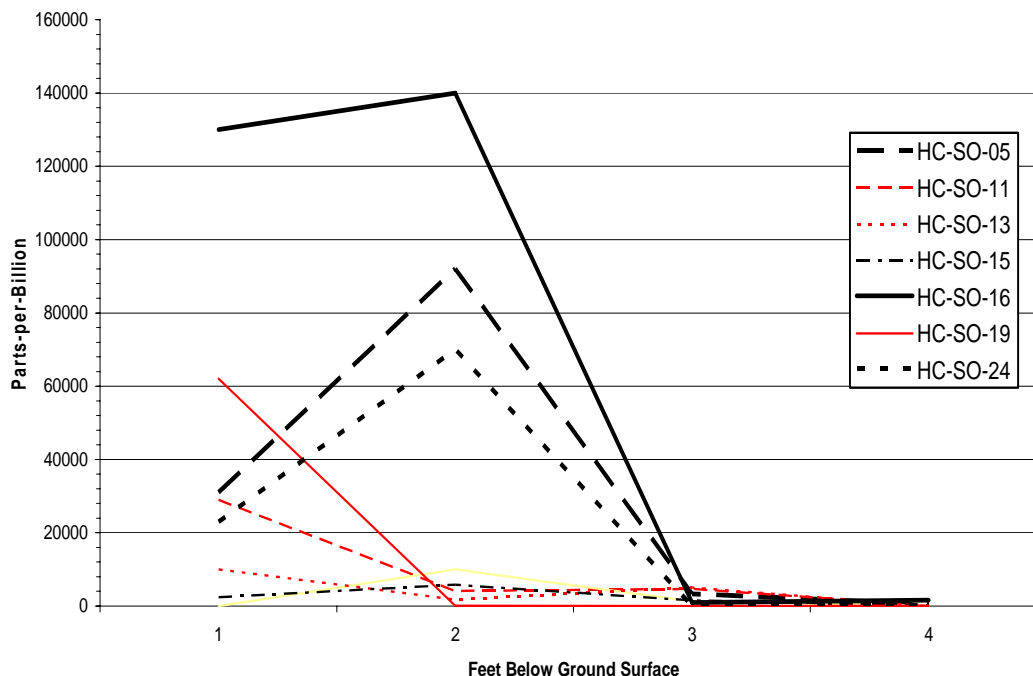
UJ Reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

U The analyte was not detected above the reported detection limit.

J The associated numeric value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

Conflicting detections are shaded.

Figure A
Dieldrin vs. Depth



6.2 BUILDING INTERIORS

A specific contaminant comparison benchmark for interior wipe sample results was not available to START. However, in an effort to gain some understanding of the wipe sample results, the PCL organochlorine pesticide values (soil inhalation, ingestion, and dermal pathways) were incorporated for discussion here. A more definitive toxicological interpretation may be warranted. With one exception, no PCLs were exceeded in interior wipe samples obtained at the site. Sample HC-WP-SMP-CLN-01, obtained from the ceiling in the South Mixing Plant, was observed to be approximately twice the PCL benchmark value for Toxaphene. The sample is likely elevated because of the biased sampling approach that was performed by START, which incorporated 30% of the South Mixing Plant ceiling sample aliquots from the exhaust blower location. The exhaust blower was anticipated to be the most likely contaminated area on the ceiling because of venting at that location during historical facility operations. All ceiling samples were obtained by removing wood splinters from wood planking on the ceiling, which may have absorbed contaminants because of its porous makeup. Exposed wood material was not observed in any other portion of the building.

6.3 ABOVEGROUND STORAGE TANKS

No organic vapors were detected from the access ports of either tank. The south tank was observed to be dry. A high powered "smoke cutter" flashlight was used to observe the tank interior, as well as a probing rod that extended to the tank base. The north tank contains approximately 12 gallons of low viscosity (apparent) oil. The oil is combustible, but not flammable, indicating a lack of volatile vapors or light hydrocarbons. Endrin was detected in the oil at 6.6 ppb, but is not a toxic waste by Resource Conservation and Recovery Act (RCRA) definition (CFR 2005). No leakage was observed during visual inspection by START, however tank integrity could not be determined because an aluminum jacket surrounds the tank exterior that prohibits a thorough inspection. The six-foot high chain link fence that encompasses the tanks, as well as the surrounding area, is overgrown with Twining Milkweed vine plant that emits a pungent odor that could be misinterpreted as a pesticide odor.

6.4 AMBIENT AIR

During the August sampling activities at this site, the time-weighted average (TWA) concentration for all particulate matter less than 10 micrometers in size (PM-10) was 0.023 milligrams per cubic meter (mg/m^3) (DataRAM® instrument #496) and 0.021 mg/m^3 (DataRAM® instrument #495), far less than applicable National Institute for Occupational Safety and Health (NIOSH) standards. For comparison, the TWA for respirable crystalline silica dust is 0.05 mg/m^3 and the immediately dangerous to life or health (IDLH) concentration is 50 mg/m^3 (NIOSH 2005). Laboratory analysis of PM-10 particulate sampled on August 26 by each DataRAM® instrument indicated that organochlorine pesticides were not present.

7.0 OBSERVATIONS

Subsurface soils at the site are contaminated with organochlorine pesticides that exceed applicable PCLs to an approximate maximum depth of four feet bgs. Specific contaminated depth intervals vary but are contained within the southern and east central areas of the site. One soil core (HC-SO-05) located at a suspected material stockpiling area north of the Warehouse and east of the Mixing Plant, however, did indicate contamination that exceeded a PCL in the 6-8 feet bgs interval. That observation is somewhat suspect though, because a replicate sample from the same interval indicated contamination far below the PCL, as did the preceding 3-4 foot interval. It is possible for the Geoprobe® core barrel to shave material off of the core hole side wall as it is lowered into the hole thereby causing a false positive for the lower

interval. At this time contaminated sediments are located underneath buildings and an engineered cap and are otherwise not readily available to receptors at the ground surface. Site conditions could, however, change as the facility degrades with use and age. Competent clay sediments were observed under the site that may disallow downward contaminant migration carried by infiltrating surface water. The area under the asphalt cap located south of the Mixing Plant and Warehouse buildings appears to be the location of past contaminant burial, as that area possesses the greatest amount of observed contamination and the greatest depth of disturbed sediments (approximately four feet bgs). Pesticide contamination exceeding PCLs was not observed within soils in the northern (off-cap) portion of the site area as indicated by the E&E investigation.

With the exception of the South Mixing Plant ceiling, building interiors possess no organochlorine pesticide contaminant amounts in excess of the PCL benchmark levels (soil inhalation, ingestion, and dermal pathways). However, a more definitive toxicological interpretation of the wipe sample results may reveal more appropriate benchmark comparisons. Based upon the observation of painted walls, exhaust venting in the ceiling, and signage at the entry door warning personnel to wear respirators upon entry, the South Mixing Plant appears to be the location where pesticide formulation operations were most active. The ceiling in that area is 15 to 35 feet above floor level and is not readily accessible to workers. The unfinished wood planking that comprises the ceiling did not flake or peel and is not likely to fall to ground level upon deterioration. However, all potential scenarios by which the ceiling may be disturbed can not be eliminated, such as damage by weather extremes or catastrophic events where ceiling failure may occur.

The ASTs appear to present no significant organochlorine pesticide contaminant threat to the public. The south tank is empty, while the north tank contains approximately 12 gallons of apparent oil that contains a non-toxic amount of Endrin. The oil is not flammable, the tanks are not obviously leaking, and passive tank entry is not possible. An odor was observed intermittently at the AST location by START, but is believed to be caused by the Twining Milkweed plant that emits a very pungent odor upon disturbance. The AST area is overgrown by the plant, as are other portions of the site area, particularly the apparent loading platform area located northeast of the Mixing Plant.

Ambient air was monitored during each day of START activities. Air monitors were biased toward an increased observed dust amount by placing the samplers directly onto the barren ground surface, where dust readings would be highest. Dust levels did not exceed NIOSH-recommended maximums. Analysis of dust for organochlorine pesticide content during one day of work activities revealed none above detectable levels.

8.0 LIST OF REFERENCES

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Texas Commission on Environmental Quality (TCEQ). 2005. Texas Risk Reduction Program Rule, Protective Concentration Levels. RG-366/TRRP-22. January 2005.

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TABLE 1
Organochlorine Pesticide Analytical Summary
Subsurface Soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-01-1 0-1	HC-SO-01-2 1-2	HC-SO-01-3 2-3	HC-SO-01-4 3-4	HC-SO-01-4R 3-4	HC-SO-02-1 0-1	HC-SO-02-2 1-2	HC-SO-02-3 2-3	HC-SO-02-4 3-4	HC-SO-03-1 0-1	HC-SO-03-2 1-2	HC-SO-03-3 2-3	HC-SO-03-4 3-4	HC-SO-04-1 0-1
Analyte	TRRP Value^														
Alpha-BHC	2,900	1.2 U	0.42 U	0.4 U	0.44 U	0.45 U	0.42 U	4.3 U	0.43 U	0.44 U	24 U	0.4 U	0.45 U	0.48 U	45 U
Gamma-BHC (Lindane)	18,000	1.3 U	0.47 U	0.45 U	0.5 U	0.5 U	0.48 U	4.8 U	0.49 U	0.49 U	27 U	0.45 U	0.5 U	0.54 U	50 U
Beta-BHC	11,000	3.3 U	1.2 U	1.1 U	1.2 U	1.2 U	17	100	1.2 U	1.2 U	65 U	14	1.2 U	1.3 U	120 U
Delta-BHC	12,000	1.3 U	0.44 U	0.42 U	0.47 U	0.48 U	0.45 U	4.6 U	0.46 U	0.46 U	25 U	0.43 U	0.47 U	0.51 U	47 U
Heptachlor	2,800	1.9 U	0.67 U	0.65 U	0.71 U	0.72 U	0.68 U	7 U	0.7 U	0.71 U	38 U	0.65 U	0.72 U	0.78 U	72 U
Aldrin	970	4.7 U	1.6 U	1.6 U	1.7 U	1.8 U	1.7 U	17 U	1.7 U	1.7 U	92 U	1.6 U	1.8 U	1.9 U	170 U
Heptachlor Epoxide	1,900	1.7 U	0.59 U	0.56 U	0.62 U	0.63 U	0.6 U	6.1 U	0.61 U	0.62 U	33 U	0.56 U	0.63 U	0.68 U	63 U
Gamma-Chlordane	51,000	1.6 U	0.55 U	0.53 U	0.58 U	0.59 U	1.7 J	68 J	0.57 U	0.58 U	31 U	0.53 U	0.59 U	0.64 U	59 U
Alpha-Chlordane	54,000	1.6 U	0.57 U	0.55 U	0.61 U	0.62 U	0.58 U	20 J	0.6 U	0.6 U	33 U	1.5 J	0.62 U	0.66 U	62 U
4,4'-DDE	73,000	51	0.63 U	0.6 U	0.66 U	0.67 U	5.3 J	330	0.65 U	0.66 U	2300	58	0.67 U	0.72 U	4200
Endosulfan I	122,000	1.2 U	0.41 U	0.39 U	0.43 U	0.44 U	0.41 U	4.2 U	0.42 U	0.43 U	23 U	0.39 U	0.44 U	0.47 U	44 U
Dieldrin	1,100	1.6 UJ	0.56 U	0.54 U	0.6 U	0.61 U	5.2 J	140 J	0.59 UJ	0.59 U	860 J	2 J	0.61 UJ	0.65 UJ	590 J
Endrin	130,000	1.7 U	0.61 U	0.58 U	0.64 U	0.65 U	0.62 U	6.3 U	0.63 U	0.64 U	85 J	0.58 U	0.65 U	0.7 U	65 U
4,4'-DDD	100,000	4.2 U	1.5 U	1.4 U	1.5 U	1.6 U	1.5 U	77	1.5 U	1.5 U	610 J	1.5 J	1.6 U	1.7 U	570 J
Endosulfan II	4,100,000	2.4 UJ	0.84 U	0.8 U	0.89 U	0.9 U	0.85 U	8.7 U	0.87 UJ	0.88 U	47 UJ	0.81 UJ	0.9 UJ	0.97 UJ	90 UJ
4,4'-DDT	68,000	27	1 U	0.98 U	1.1 U	1.1 U	5.8 J	300	1.1 U	1.1 U	2700 J	7	1.1 U	1.2 U	3200
Endrin Aldehyde	200,000	5.2 UJ	1.8 U	1.7 U	1.9 U	1.9 U	1.8 U	19 U	1.9 U	1.9 UJ	100 UJ	1.7 UJ	1.9 UJ	2.1 UJ	190 UJ
Methoxychlor	3,000,000	14 U	4.8 U	4.6 U	5.1 U	5.2 U	4.9 U	50 U	5 U	5 U	270 U	4.6 U	5.2 U	5.6 U	520 U
Endosulfan Sulfate	4,100,000	2.9 UJ	0.99 UJ	0.95 UJ	1.1 UJ	1.1 UJ	1 UJ	10 UJ	1 UJ	1 UJ	56 UJ	0.95 UJ	1.1 UJ	1.1 UJ	110 UJ
Endrin Ketone	180,000	3.8 UJ	1.3 UJ	1.3 UJ	1.4 UJ	1.4 UJ	1.3 UJ	14 UJ	1.4 UJ	1.4 UJ	75 UJ	1.3 UJ	1.4 UJ	1.5 UJ	140 UJ
Toxaphene	17,000	160 U	57 U	54 U	60 U	61 U	58 U	590 U	59 U	59 U	3200 U	55 U	61 U	65 U	6100 U

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).

Analyte amounts that exceed TRRP PCL value indicated by**bold font**.

U = The analyte was not detected above the reported detection limit.

* = Feet below ground surface.

J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

SO = Soil R = Replicate sample

HC = Helena Chemical

TABLE 1 (continued)
Organochlorine Pesticide Analytical Summary
Subsurface soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-04-2 1-2	HC-SO-04-3 2-3	HC-SO-04-4 3-4	HC-SO-05-1 0-1	HC-SO-05-2 1-2	HC-SO-05-3 2-3	HC-SO-05-4 3-4	HC-SO-05-6 4-6	HC-SO-05-8 6-8	HC-SO-05-8R 6-8	HC-SO-05-10 8-10	HC-SO-06-1 0-1	HC-SO-06-2 1-2	HC-SO-06-3 2-3
Analyte	TRRP Value^														
Alpha-BHC	2,900	2.2 U	0.43 U	0.44 U	440 U	1300 U	160 J	9.3 U	18 U	4.4 UJ	17 UJ	8.8 UJ	79 UJ	90 J	0.84 UJ
Gamma-BHC (Lindane)	18,000	2.5 U	0.48 U	0.5 U	490 U	1500 U	46 U	11 U	20 U	4.9 UJ	19 UJ	9.9 UJ	89 UJ	46 UJ	0.94 UJ
Beta-BHC	11,000	65	1.2 U	1.2 U	1200 U	3700 U	2100	29 J	50 U	12 UJ	46 UJ	24 UJ	3700 J	4500 J	79 J
Delta-BHC	12,000	2.4 U	0.45 U	0.47 U	470 U	1400 U	43 U	9.9 U	19 U	4.7 UJ	18 UJ	9.4 UJ	84 UJ	44 UJ	0.89 UJ
Heptachlor	2,800	3.6 U	0.69 U	0.72 U	710 U	1300 J	66 U	15 U	29 U	7.1 U	27 U	14 U	130 U	67 U	1.4 U
Aldrin	970	8.8 U	1.7 U	1.7 U	1700 U	180 U	160 U	37 U	71 U	17 U	65 U	35 U	310 U	160 U	3.3 U
Heptachlor Epoxide	1,900	3.2 U	0.6 U	0.62 U	620 U	63 U	57 U	13 U	25 U	6.2 U	24 U	12 U	110 U	58 U	1.2 U
Gamma-Chlordane	51,000	3 U	0.57 U	0.59 U	1700 J	7600 J	640 J	58 J	26 J	5.8 U	22 U	12 U	100 U	55 U	7.3 J
Alpha-Chlordane	54,000	3.1 U	0.59 U	0.61 U	1700 J	11000 J	710 J	100 J	120 J	6 U	29 J	30 J	110 U	57 U	1.2 U
4,4'-DDE	73,000	360 J	5.8 J	2.9 J	660 U	8600 J	61 U	14 U	27 U	6.6 U	25 U	13 U	7400 J	5400 J	150 J
Endosulfan I	122,000	2.2 U	0.42 U	0.44 U	430 U	1300 U	40 U	9.2 U	18 U	4.3 U	16 UJ	8.7 UJ	78 UJ	41 UJ	0.82 UJ
Dieldrin	1,100	44 J	0.58 U	0.6 U	31000 J	92000 J	3300 J	540 J	2000 J	380 J	1800 J	830 J	4900 J	3300 J	50 J
Endrin	130,000	3.3 U	0.62 U	0.65 U	36000	140000	6000	910	2500	100 J	1300 J	630 J	3700 J	2100 J	39 J
4,4'-DDD	100,000	12 J	1.5 U	1.5 U	1500 U	4700 U	140 U	33 U	63 U	15 U	58 U	31 U	280 U	480 J	14 J
Endosulfan II	4,100,000	4.5 UJ	0.86 U	0.89 U	880 U	2700 U	82 U	19 U	36 U	8.8 U	34 U	18 U	160 U	83 U	1.7 U
4,4'-DDT	68,000	56 J	1.1 U	1.1 U	22000 J	61000 J	4800 J	670 J	480	11 UJ	41 UJ	22 UJ	11000 J	6600 J	130 J
Endrin Aldehyde	200,000	9.8 UJ	1.9 U	1.9 U	1900 U	5900 U	180 U	41 U	79 U	19 UJ	73 UJ	38 UJ	350 UJ	180 UJ	3.7 UJ
Methoxychlor	3,000,000	26 U	5 U	5.1 U	5100 U	16000 U	470 U	110 U	210 U	51 U	190 U	100 U	920 U	480 U	9.7 U
Endosulfan Sulfate	4,100,000	5.4 UJ	1 U	1.1 U	5600 J	13000 J	1700 J	210 J	130 J	10 UJ	40 UJ	21 UJ	320 J	99 UJ	9.8 J
Endrin Ketone	180,000	7.1 UJ	1.4 UJ	1.4 UJ	10000 J	23000 J	2400 J	280 J	580 J	75 J	430 J	220 J	720 J	510 J	9.3 J
Toxaphene	17,000	310 U	58 U	60 U	60000 U	1400000	5500 U	1300 U	2500 U	600 U	2300 U	1200 U	11000 U	5600 U	110 U

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).
Analyte amounts that exceed TRRP PCL value indicated by**bold font**. J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U = The analyte was not detected above the reported detection limit. UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.
* = Feet below ground surface. HC = Helena Chemical SO = Soil R = Replicate sample

TABLE 1 (continued)
Organochlorine Pesticide Analytical Summary
Subsurface soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-06-3R 2-3	HC-SO-06-4 3-4	HC-SO-07-1 0-1	HC-SO-07-2 1-2	HC-SO-07-2R 1-2	HC-SO-07-3 2-3	HC-SO-07-4 3-4	HC-SO-07-6 4-6	HC-SO-07-8 6-8	HC-SO-07-10 8-10	HC-SO-08-1 0-1	HC-SO-08-2 1-2	HC-SO-08-3 2-3	HC-SO-08-4 3-4
Analyte	TRRP Value^														
Alpha-BHC	2,900	1.7 UJ	0.46 UJ	420 U	860 U	5300	2400 J	1100	250	0.45 U	3.5 J	8.6 U	4.5 U	0.94 U	0.47 U
Gamma-BHC (Lindane)	18,000	1.9 UJ	0.51 UJ	480 U	970 U	1000 J	250 U	10 U	5.2 U	0.51 U	0.5 U	9.7 U	5.1 U	1.1 U	0.53 U
Beta-BHC	11,000	94 J	3 J	1200 U	2400 U	1500	6800	330	13 U	1.2 U	1.2 U	100 J	13 U	2.6 U	1.3 U
Delta-BHC	12,000	1.8 UJ	0.48 UJ	450 U	910 U	89 U	240 U	9.9 U	4.9 U	0.48 U	0.47 U	9.1 U	4.8 U	1 U	0.5 U
Heptachlor	2,800	2.7 U	0.74 U	680 U	1400 U	140 U	360 U	15 U	7.4 U	0.73 U	0.72 U	14 U	7.4 U	1.5 U	0.76 U
Aldrin	970	6.6 U	1.8 U	170 U	170 U	330 U	170 U	36 U	18 U	1.8 U	1.7 U	34 U	18 U	3.7 U	1.8 U
Heptachlor Epoxide	1,900	2.4 U	0.64 U	600 U	1200 U	120 U	310 U	13 U	6.5 U	0.63 U	0.63 U	12 U	6.4 U	1.3 U	0.66 U
Gamma-Chlordane	51,000	2.2 U	0.6 U	560 U	1100 U	110 U	290 U	12 U	6.1 U	0.6 U	0.59 U	11 U	26 J	1.3 U	0.62 U
Alpha-Chlordane	54,000	2.3 U	0.63 U	580 U	1200 U	120 U	310 U	13 U	6.3 U	0.62 U	0.61 U	12 U	38 J	1.3 U	0.65 U
4,4'-DDE	73,000	160 J	21 J	12000	13000	640 J	12000	49 J	6.9 U	0.68 U	0.67 U	210	130	31	4.8 J
Endosulfan I	122,000	1.7 UJ	0.45 UJ	420 U	850 U	83 U	220 U	9.1 U	4.5 U	0.44 U	0.44 U	8.4 U	4.5 U	0.93 U	0.46 U
Dieldrin	1,100	73 J	10 J	5700 J	1100 J	110 U	9100 J	13 U	6.2 U	0.61 U	0.6 U	100 J	290	35	0.64 U
Endrin	130,000	72 J	10 J	620 U	1300 U	120 U	2800 J	14 U	6.7 U	0.66 U	0.65 U	140 J	670	140	0.69 U
4,4'-DDD	100,000	24 J	6.1 J	5400 J	11000 J	290 U	4600 J	32 U	16 U	1.6 U	1.6 U	200	110 J	23	7.1 J
Endosulfan II	4,100,000	3.4 U	0.92 U	850 U	1700 U	170 U	450 U	19 U	9.3 U	0.91 U	0.89 U	17 U	9.2 U	1.9 U	0.95 U
4,4'-DDT	68,000	140 J	37 J	22000 J	37000 J	210 U	14000 J	23 U	11 U	1.1 U	1.1 U	960 J	370 J	140 J	36 J
Endrin Aldehyde	200,000	7.3 UJ	2 UJ	1800 U	3700 U	370 U	970 U	41 U	20 U	2 U	1.9 U	37 U	130 J	6.1 J	2 U
Methoxychlor	3,000,000	20 U	5.3 U	4900 U	10000 U	970 U	2600 U	110 U	53 U	5.2 U	5.1 U	99 U	53 U	11 U	5.4 U
Endosulfan Sulfate	4,100,000	4 UJ	1.1 UJ	1000 U	2100 U	200 U	530 U	22 U	11 U	1.1 U	1.1 U	20 U	11 U	2.3 U	1.1 U
Endrin Ketone	180,000	11 J	1.5 UJ	1300 U	2700 U	270 U	1700 J	30 U	15 U	1.4 U	1.4 U	27 U	120	35	1.5 U
Toxaphene	17,000	230 U	62 U	110000	5900 U	11000 U	57000	1300 U	630 U	61 U	61 U	1200 U	620 U	130 U	64 U

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).
Analyte amounts that exceed TRRP PCL value indicated by**bold font**.
J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U = The analyte was not detected above the reported detection limit.
UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.
* = Feet below ground surface. HC = Helena Chemical
SO = Soil R = Replicate sample

TABLE 1 (continued)
Organochlorine Pesticide Analytical Summary
Subsurface soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-09-1 0-1	HC-SO-09-2 1-2	HC-SO-09-3 2-3	HC-SO-09-4 3-4	HC-SO-10-1 0-1	HC-SO-10-2 1-2	HC-SO-10-3 2-3	HC-SO-10-4 3-4	HC-SO-11-1 0-1	HC-SO-11-2 1-2	HC-SO-11-3 2-3	HC-SO-11-3R 2-3	HC-SO-11-4 3-4	HC-SO-12-1 0-1	HC-SO-12-2 1-2
Analyte	TRRP Value^															
Alpha-BHC	2,900	4.5 U	4.5 U	0.45 U	0.49 U	23 U	13 J	4.6 U	4.6 J	220 U	44 U	47 U	18 U	0.95 U	11 U	910 U
Gamma-BHC (Lindane)	18,000	5.1 U	5.1 U	0.51 U	0.55 U	26 U	18 J	5.1 U	4.8 J	250 U	50 U	53 U	21 U	1.1 U	12 U	1000 U
Beta-BHC	11,000	13 U	13 U	1.3 U	1.4 U	63 U	26	47 J	1.3 U	620 U	120 U	130 U	51 U	2.6 U	180	9200 J
Delta-BHC	12,000	4.8 U	4.8 U	0.48 U	0.52 U	24 U	2 U	4.8 U	0.51 U	240 U	47 U	50 U	20 U	1 U	11 U	970 U
Heptachlor	2,800	7.3 U	7.3 U	0.73 U	0.79 U	37 U	3 U	7.4 U	0.78 U	360 U	72 U	77 U	30 U	1.5 U	18 U	1500 U
Aldrin	970	18 U	18 U	1.8 U	1.9 U	89 U	7.2 U	18 U	1.9 U	870 U	170 U	190 U	72 U	3.7 U	42 U	180 U
Heptachlor Epoxide	1,900	6.4 U	6.4 U	0.64 U	0.69 U	32 U	2.6 U	6.4 U	0.68 U	310 U	63 U	67 U	26 U	1.3 U	15 U	1300 U
Gamma-Chlordane	51,000	39 J	6 U	0.6 U	0.65 U	30 U	2.4 U	6 U	0.64 U	300 U	59 U	63 U	25 U	1.3 U	14 U	1200 U
Alpha-Chlordane	54,000	6.3 U	6.2 U	0.62 U	0.68 U	31 U	2.5 U	6.3 U	0.67 U	310 U	61 U	65 U	26 U	1.3 U	15 U	1300 U
4,4'-DDE	73,000	160	130	15	15	380	51	92	12	860 J	67 U	71 U	61 J	5.1 J	200	12000 J
Endosulfan I	122,000	4.5 U	4.5 U	0.45 U	0.48 U	22 U	1.8 U	4.5 U	0.48 U	220 U	44 U	47 U	18 U	0.94 U	11 U	900 U
Dieldrin	1,100	190	6.1 U	0.61 U	0.67 U	31 U	27 J	46 J	6.2 J	29000	4100	4700	2600	130	15 U	10000 J
Endrin	130,000	39 J	6.6 U	0.66 U	0.72 U	33 U	2.7 U	6.7 U	0.71 U	2900 J	1200	480 J	410	13 J	31 J	1300 U
4,4'-DDD	100,000	100	69	9.1	6.8	290 J	34	72	8.5	780 U	160 U	170 U	65 U	6.6 J	260	10000 J
Endosulfan II	4,100,000	9.1 U	9.1 U	0.91 U	0.99 U	46 U	3.7 U	9.2 U	0.98 U	450 U	90 U	95 U	37 U	1.9 U	22 U	1800 U
4,4'-DDT	68,000	390 J	290 J	56 J	44 J	1100 J	140 J	320 J	48 J	820 J	110 U	120 U	45 U	5.2 J	1600 J	49000 J
Endrin Aldehyde	200,000	20 U	20 U	2 U	2.1 U	99 U	8 U	20 U	2.1 U	970 U	190 U	210 U	81 U	4.2 U	47 U	4000 U
Methoxychlor	3,000,000	53 U	52 U	5.2 U	5.7 U	260 U	21 U	53 U	5.6 U	2600 U	520 U	550 U	210 U	11 U	130 U	11000 U
Endosulfan Sulfate	4,100,000	11 U	11 U	1.1 U	1.2 U	54 U	4.4 U	11 U	1.2 U	530 U	110 U	110 U	44 U	2.3 U	26 U	2200 U
Endrin Ketone	180,000	14 U	14 U	1.4 U	1.6 U	72 U	5.9 U	15 U	1.5 U	710 U	340 J	150 U	140 J	3 U	34 U	2900 U
Toxaphene	17,000	620 U	620 U	62 U	67 U	3100 U	250 U	620 U	66 U	6100 U	6100 U	6500 U	2500 U	130 U	1500 U	140000

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).

Analyte amounts that exceed TRRP PCL value indicated by**bold font**.

U = The analyte was not detected above the reported detection limit.

* = Feet below ground surface.

J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

SO = Soil R = Replicate sample

HC = Helena Chemical

TABLE 1 (continued)
Organochlorine Pesticide Analytical Summary
Subsurface soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-12-3 2-3	HC-SO-12-4 3-4	HC-SO-13-1 0-1	HC-SO-13-2 1-2	HC-SO-13-2R 1-2	HC-SO-13-3 2-3	HC-SO-13-4 3-4	HC-SO-13-6 4-6	HC-SO-13-8 6-8	HC-SO-13-10 8-10	HC-SO-14-1 0-1	HC-SO-14-2 1-2	HC-SO-14-3 2-3	HC-SO-14-4 3-4	HC-SO-14-5 4-5
Analyte	TRRP Value^															
Alpha-BHC	2,900	160 J	2 U	890 U	21 U	76 U	1000 J	5.6 J	0.45 U	0.43 U	0.42 U	420 U	85 U	43 U	870 U	45 U
Gamma-BHC (Lindane)	18,000	340	2.3 U	1000 U	24 U	85 U	190 U	1 U	0.51 U	0.49 U	0.47 U	470 U	95 U	49 U	980 U	51 U
Beta-BHC	11,000	2100	340	2500 U	1100	1500	3900	32	12	1.2 U	5.5 J	3600 J	230 U	1700	30000 J	2200
Delta-BHC	12,000	180 J	2.2 U	940 U	22 U	81 U	180 U	0.98 U	0.48 U	0.46 U	0.45 U	440 UJ	90 UJ	46 U	920 UJ	48 U
Heptachlor	2,800	37 U	3.3 U	1400 U	34 U	120 U	280 U	1.5 U	0.73 U	0.7 U	0.68 U	670 U	140 U	70 U	1400 U	880
Aldrin	970	89 U	7.9 U	170 U	82 U	300 U	670 U	3.6 U	1.8 U	1.7 U	1.6 U	1600 U	330 U	170 U	3400 U	180 U
Heptachlor Epoxide	1,900	32 U	2.9 U	1300 U	30 U	110 U	240 U	1.3 U	0.64 U	0.61 U	0.59 U	590 U	120 U	61 U	1200 U	150 J
Gamma-Chlordane	51,000	340 J	2.7 U	1200 U	220 J	100 U	230 U	1.2 U	0.6 U	0.58 U	0.56 U	550 U	110 U	57 U	1200 U	700
Alpha-Chlordane	54,000	48 J	2.8 U	1200 U	160 J	100 U	240 U	1.3 U	0.62 U	0.6 U	0.58 U	570 U	120 U	60 U	1200 U	230 J
4,4'-DDE	73,000	730	13 J	28000	2100	2500	11000	79	2.5 J	1.7 J	10	15000 J	12000 J	5800 J	67000 J	4700 J
Endosulfan I	122,000	22 U	2 U	870 U	21 U	75 U	170 U	0.91 U	0.44 U	0.43 U	0.41 U	410 U	83 U	43 U	860 U	45 U
Dieldrin	1,100	1300 J	81	10000 J	1800 J	1900 J	5100 J	16 J	0.61 U	0.59 U	4.5 J	4900 J	3000 J	59 U	1200 U	940 J
Endrin	130,000	33 U	3 U	1300 U	31 U	110 U	250 U	1.4 U	0.66 U	0.63 U	0.61 U	610 U	120 U	63 U	1300 U	66 U
4,4'-DDD	100,000	500	13 J	9000 J	1500	2200	3800	13	1.6 U	1.5 U	6.2	4400 J	2700 J	1600	7200 J	440 J
Endosulfan II	4,100,000	46 U	4.1 U	1800 U	42 U	150 U	350 U	1.9 U	0.91 U	0.88 U	0.84 U	840 U	170 U	87 U	1800 U	91 U
4,4'-DDT	68,000	2300 J	61 J	37000 J	2600 J	4300 J	4400 J	17 J	1.1 U	1.1 U	11 J	23000	11000	5700	38000	1300
Endrin Aldehyde	200,000	99 U	8.8 U	3900 U	91 U	330 U	750 U	4 U	2 U	1.9 U	1.8 U	1800 U	370 U	190 U	3800 U	200 U
Methoxychlor	3,000,000	260 U	23 U	10000 U	240 U	880 U	2000 U	11 U	5.2 U	5 U	4.9 U	4800 U	980 U	500 U	10000 U	520 U
Endosulfan Sulfate	4,100,000	54 U	4.8 U	2100 U	50 U	180 U	410 U	2.2 U	1.1 U	1 U	1 U	990 U	200 U	100 U	2100 U	110 U
Endrin Ketone	180,000	200 J	17 J	2800 U	67 U	240 U	550 U	2.9 U	1.4 U	1.4 U	1.3 U	1300 U	270 U	440 J	2800 U	140 U
Toxaphene	17,000	3100 U	280 U	150000	2900 U	10000 U	23000 J	130 U	61 U	59 U	57 U	110000	12000 U	5900 U	5900 U	6200 U

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).

Analyte amounts that exceed TRRP PCL value indicated by**bold font**.

U = The analyte was not detected above the reported detection limit.

* = Feet below ground surface.

J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

SO = Soil R = Replicate sample

TABLE 1 (continued)
Organochlorine Pesticide Analytical Summary
Subsurface soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-14-6 5-6	HC-SO-14-7 6-7	HC-SO-14-8 7-8	HC-SO-15-1 0-1	HC-SO-15-2 1-2	HC-SO-15-3 2-3	HC-SO-15-4 3-4	HC-SO-16-1 0-1	HC-SO-16-2 1-2	HC-SO-16-3 2-3	HC-SO-16-4 3-4	HC-SO-16-6 4-6	HC-SO-16-8 6-8	HC-SO-16-10 8-10	HC-SO-17-1 0-1
Analyte	TRRP Value^															
Alpha-BHC	2,900	0.93 U	0.41 U	0.41 U	84 U	3400000	530 J	290 J	4100 U	8700 U	45 U	46 U	9.1 U	1.3 U	12 U	45 U
Gamma-BHC (Lindane)	18,000	1.1 U	0.46 U	0.47 U	95 U	420000 J	520 J	180 J	4700 U	9800 U	51 U	52 U	10 U	1.5 U	13 U	50 U
Beta-BHC	11,000	83 J	1.1 U	1.1 U	1900	39000 J	120 U	100 J	16000 J	170000 J	640 J	840 J	610	77	32 U	120 U
Delta-BHC	12,000	0.99 UJ	0.43 U	0.44 U	89 UJ	8400 J	47 UJ	9.8 UJ	4400 UJ	9200 UJ	48 UJ	49 UJ	9.7 U	1.4 UJ	12 UJ	47 UJ
Heptachlor	2,800	5.8 J	0.66 U	0.67 U	140 U	14 U	1100 J	220 J	14000 J	18000 J	73 U	75 U	15 U	2.2 U	19 U	72 U
Aldrin	970	3.7 U	1.6 U	1.6 U	330 U	1400 J	810 J	240 J	160 U	34 U	180 U	180 U	36 U	5.3 U	45 U	170 U
Heptachlor Epoxide	1,900	1.3 U	0.57 U	0.58 U	120 U	12 U	63 U	13 U	59 U	12 U	64 U	65 U	13 U	1.9 U	16 U	63 U
Gamma-Chlordane	51,000	11 J	0.54 U	0.55 U	1600 J	46000 U	3900	890	28000 J	420000	450 J	440 J	130	14 J	91 J	59 U
Alpha-Chlordane	54,000	1.3 U	0.56 U	0.57 U	520 J	47000 U	3900 J	890	5700 U	74000 J	110 J	140 J	38 J	6.6 J	16 U	62 U
4,4'-DDE	73,000	97 J	7.5 J	3.8 J	5900	52000 U	400 J	110 J	65000 J	120000 J	350 J	380 J	96 J	16 J	100 J	2200 J
Endosulfan I	122,000	0.92 U	0.4 U	0.41 U	83 U	34000 U	44 U	9 U	4100 U	8500 U	45 U	46 U	9 U	1.3 U	11 U	44 U
Dieldrin	1,100	24 J	0.55 U	0.56 U	2400 J	5800 J	1500	280 J	130000	140000 J	990 J	1600	170 J	48	320 J	61 U
Endrin	130,000	1.4 U	0.59 U	0.6 U	120 U	50000 U	65 U	13 U	6100 U	13000 U	66 U	68 U	22 J	71 J	17 U	65 U
4,4'-DDD	100,000	16 J	1.4 U	1.4 U	1800 J	8900 J	160 U	250 J	54000 J	200000 J	470 J	930 J	32 U	13 J	94 J	1000 J
Endosulfan II	4,100,000	1.9 U	0.82 U	0.83 U	170 U	69000 U	90 U	18 U	8400 U	18000 U	91 U	93 U	18 U	2.7 U	23 U	90 U
4,4'-DDT	68,000	53	9.2 J	6.8 J	8600	170000 J	1200	300	390000	780000	2800	3700	390	100	660	4600
Endrin Aldehyde	200,000	4.1 U	1.8 U	1.8 U	370 U	150000 U	190 U	40 U	18000 U	38000 U	200 U	200 U	40 U	5.9 U	50 U	190 U
Methoxychlor	3,000,000	11 U	4.7 U	4.8 U	970 U	400000 U	520 U	110 U	48000 U	100000 U	520 U	540 U	110 U	16 U	130 U	520 U
Endosulfan Sulfate	4,100,000	2.2 U	0.97 U	0.99 U	200 U	82000 U	110 U	78 J	9900 U	21000 U	110 U	110 U	22 U	3.2 U	28 U	110 U
Endrin Ketone	180,000	3 U	1.3 U	1.3 U	270 U	110000 U	140 U	29 U	13000 U	28000 U	140 U	150 U	29 U	21	37 U	140 U
Toxaphene	17,000	130 U	56 U	56 U	11000 U	220000	6100 U	1300 U	860000	1900000	6200 U	6300 U	1200 U	180 U	1600 U	6100 U

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).

Analyte amounts that exceed TRRP PCL value indicated by**bold font**.

U = The analyte was not detected above the reported detection limit.

* = Feet below ground surface.

HC = Helena Chemical

J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

SO = Soil R = Replicate sample

TABLE 1 (continued)
Organochlorine Pesticide Analytical Summary
Subsurface soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-17-2 1-2	HC-SO-17-3 2-3	HC-SO-17-4 3-4	HC-SO-18-1 0-1	HC-SO-18-2 1-2	HC-SO-18-3 2-3	HC-SO-18-4 3-4	HC-SO-19-1 0-1	HC-SO-19-2 1-2	HC-SO-19-3 2-3	HC-SO-19-4 3-4	HC-SO-20-1 0-1	HC-SO-20-2 1-2	HC-SO-20-3 2-3	HC-SO-20-4 3-4
Analyte	TRRP Value^															
Alpha-BHC	2,900	0.89 U	0.47 U	0.47 U	16 U	0.81 U	0.88 U	0.46 U	4200 U	2.1 U	8.6 U	0.45 U	2.1 U	0.41 U	0.44 U	0.44 U
Gamma-BHC (Lindane)	18,000	1 U	0.53 U	0.53 U	18 U	0.91 U	0.99 U	0.52 U	4800 U	2.4 U	9.7 U	0.5 U	2.4 U	0.47 U	0.5 U	0.49 U
Beta-BHC	11,000	97 J	1.3 U	1.3 U	45 U	42 J	140 J	1.3 U	22000 J	230 J	670	80	5.9 U	9.9 J	1.2 U	1.2 U
Delta-BHC	12,000	0.94 UJ	0.5 UJ	0.5 U	17 UJ	0.86 UJ	0.93 UJ	0.49 U	4500 UJ	2.3 UJ	9.2 U	0.47 U	2.2 UJ	0.44 U	0.47 U	0.46 U
Heptachlor	2,800	1.4 U	0.76 U	0.76 U	26 U	1.3 U	1.4 U	0.75 U	4600	3.4 U	14 U	0.72 U	3.4 U	0.67 U	0.71 U	0.71 U
Aldrin	970	3.5 U	1.8 U	1.8 U	64 U	3.2 U	3.4 U	1.8 U	170 U	8.3 U	34 U	1.7 U	8.3 U	1.6 U	1.7 U	1.7 U
Heptachlor Epoxide	1,900	1.3 U	0.66 U	0.66 U	23 U	1.1 U	1.2 U	0.65 U	60 U	3 U	12 U	0.63 U	3 U	0.58 U	0.62 U	0.62 U
Gamma-Chlordane	51,000	1.2 U	0.62 U	0.62 U	22 U	1.1 U	1.2 U	0.61 U	5600 U	2.8 U	11 U	10 J	2.8 U	0.55 U	0.58 U	0.58 U
Alpha-Chlordane	54,000	1.2 U	0.64 U	0.65 U	22 U	1.1 U	1.2 U	0.64 U	5900 U	2.9 U	12 U	8.9 J	2.9 U	0.57 U	0.61 U	0.6 U
4,4'-DDE	73,000	1.3 U	13 J	0.71 U	1700 J	21 J	6.2 J	1.7 J	84000 J	66 J	70 J	63 J	220 J	12 J	2.4 J	2.8 J
Endosulfan I	122,000	0.87 U	0.46 U	0.46 U	16 U	0.79 U	0.86 U	0.46 U	4200 U	2.1 U	8.5 U	0.44 U	2.1 U	0.41 U	0.43 U	0.43 U
Dieldrin	1,100	1.2 U	0.63 U	0.64 U	730 J	61	20	0.63 U	62000 J	55 J	12 U	43	60 J	17	0.6 U	0.59 U
Endrin	130,000	1.3 U	0.68 U	0.69 U	24 U	6.9 J	1.3 U	0.68 U	6200 U	3.1 U	13 U	21 J	3.1 U	0.6 U	0.64 U	0.64 U
4,4'-DDD	100,000	3.1 U	4.8 J	1.6 U	190 J	2.8 U	3.1 U	1.6 U	100000 J	51 J	30 U	1.6 U	63 J	1.4 U	1.5 U	1.5 U
Endosulfan II	4,100,000	1.8 U	0.94 U	0.95 U	33 U	1.6 U	1.8 U	0.93 U	13000 J	4.3 U	17 U	0.9 U	4.3 U	0.83 U	0.89 U	0.88 U
4,4'-DDT	68,000	13 J	43	8.2 J	700	13 J	2.2 U	10 J	350000	180	190 J	55	340	6.2 J	1.1 U	7.4 J
Endrin Aldehyde	200,000	3.9 U	2 U	2.1 U	71 U	3.5 U	3.8 U	2 U	18000 U	9.2 U	38 U	1.9 U	9.2 U	1.8 U	1.9 U	1.9 U
Methoxychlor	3,000,000	10 U	5.4 U	5.5 U	190 U	9.3 U	10 U	5.4 U	49000 U	25 U	100 U	6.8 J	25 U	4.8 U	5.1 U	5.1 U
Endosulfan Sulfate	4,100,000	2.1 U	1.1 U	1.1 U	39 U	1.9 U	2.1 U	1.1 U	10000 U	5.1 U	21 U	1.1 U	34 J	0.99 U	1.1 U	1 U
Endrin Ketone	180,000	2.8 U	1.5 U	1.5 U	52 U	2.6 U	2.8 U	1.5 U	14000 U	22 J	27 U	8.1 J	6.7 U	1.3 U	1.4 U	1.4 U
Toxaphene	17,000	120 U	64 U	64 U	2200 U	110 U	120 U	63 U	1700000	290 U	1200 U	61 U	290 U	56 U	60 U	60 U

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).

Analyte amounts that exceed TRRP PCL value indicated by**bold font**.

U = The analyte was not detected above the reported detection limit.

* = Feet below ground surface.

J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

SO = Soil R = Replicate sample

TABLE 1 (continued)
Organochlorine Pesticide Analytical Summary
Subsurface soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-20-6 4-6	HC-SO-20-8 6-8	HC-SO-20-10 8-10	HC-SO-21-1 0-1	HC-SO-21-2 1-2	HC-SO-21-3 2-3	HC-SO-21-4 3-4	HC-SO-22-1 0-1	HC-SO-22-2 1-2	HC-SO-22-3 2-3	HC-SO-22-4 3-4	HC-SO-22-6 4-6	HC-SO-22-8 6-8	HC-SO-22-10 8-10	HC-SO-23-1 0-1
Analyte	TRRP Value^															
Alpha-BHC	2,900	0.44 U	0.42 U	0.45 U	4.7 UJ	260 UJ	4.3 UJ	0.96 UJ	860 UJ	4.4 UJ	4.3 UJ	5.8 J	2.8 J	0.46 UJ	0.49 UJ	0.4 UJ
Gamma-BHC (Lindane)	18,000	0.5 U	0.47 U	0.51 U	5.3 UJ	300 UJ	4.8 UJ	1.1 UJ	970 UJ	4.9 UJ	4.9 UJ	0.52 UJ	0.49 UJ	0.52 UJ	0.56 UJ	0.45 UJ
Beta-BHC	11,000	29	1.2 U	1.3 U	190 J	9600 J	12 UJ	2.7 UJ	2400 UJ	79 J	12 U	8.3 J	1.2 U	1.3 U	1.4 U	1.1 U
Delta-BHC	12,000	0.47 U	0.44 U	0.48 U	5 UJ	280 UJ	4.6 UJ	1 UJ	910 UJ	4.6 UJ	4.6 UJ	0.49 UJ	0.47 UJ	0.49 UJ	0.53 UJ	0.43 UJ
Heptachlor	2,800	0.72 U	0.67 U	0.73 U	7.6 U	420 U	7 U	1.5 U	1400 U	7.1 U	7 U	0.74 U	0.71 U	0.74 U	0.8 U	0.65 U
Aldrin	970	1.7 U	1.6 U	1.8 U	18 UJ	420 J	17 UJ	3.7 UJ	170 U	17 UJ	17 U	1.8 U	1.7 U	1.8 U	1.9 U	1.6 U
Heptachlor Epoxide	1,900	0.63 U	0.59 U	0.64 U	6.6 U	370 U	6.1 U	1.3 U	1200 UJ	6.2 U	6.1 U	0.65 U	0.62 U	0.65 U	0.7 U	0.57 U
Gamma-Chlordane	51,000	0.59 U	0.55 U	0.6 U	6.2 U	350 U	5.7 U	1.3 U	1100 U	5.8 U	5.7 U	0.61 U	0.58 U	0.61 U	0.65 U	0.53 U
Alpha-Chlordane	54,000	0.61 U	0.58 U	0.62 U	6.5 U	360 U	5.9 U	1.3 U	1200 U	6 U	6 U	0.64 U	0.61 U	0.63 U	0.68 U	0.56 U
4,4'-DDE	73,000	0.67 U	0.63 U	0.68 U	190 J	18000 J	180 J	100 J	6800 J	77 J	89 J	8.1 J	1.5 J	0.69 U	0.74 U	2.6 J
Endosulfan I	122,000	0.44 U	0.41 U	0.44 U	4.6 U	260 U	4.2 U	0.94 U	850 U	4.3 U	4.2 U	0.45 U	0.43 U	0.45 U	0.49 U	0.4 U
Dieldrin	1,100	0.6 U	0.57 U	0.61 U	6.4 U	4700 J	5.8 U	1.3 U	5400 J	76 J	77 J	13 J	0.59 U	0.62 U	0.67 U	0.55 U
Endrin	130,000	0.65 U	0.61 U	0.66 U	6.9 U	380 U	6.3 U	1.4 U	1300 U	6.4 U	6.3 U	0.67 U	0.64 U	0.67 U	0.72 U	0.59 U
4,4'-DDD	100,000	1.5 U	1.5 U	1.6 U	16 UJ	15000 J	15 UJ	3.3 UJ	3000 UJ	15 UJ	15 U	1.6 U	1.5 U	1.6 U	1.7 U	1.4 U
Endosulfan II	4,100,000	0.89 U	0.84 U	0.91 U	9.5 U	530 U	8.7 U	1.9 U	1700 U	8.8 U	8.7 U	0.93 U	0.88 U	0.93 U	1 U	0.81 U
4,4'-DDT	68,000	1.1 U	1 U	1.1 U	66	13000	65	43	49000	220	280	34	10	1.1 U	7.5 J	7.8 J
Endrin Aldehyde	200,000	1.9 U	1.8 U	2 U	21 U	1100 U	19 U	4.2 U	3700 U	19 U	19 U	2 U	1.9 U	2 U	2.2 U	1.8 U
Methoxychlor	3,000,000	5.1 U	4.8 U	5.2 U	55 U	3000 U	50 U	11 U	10000 U	50 U	50 U	5.3 U	5.1 U	5.3 U	5.7 U	4.7 U
Endosulfan Sulfate	4,100,000	1.1 U	0.99 U	1.1 U	11 UJ	630 UJ	10 UJ	2.3 UJ	2100 UJ	10 UJ	10 UJ	4.4 J	1 UJ	1.1 UJ	1.2 U	0.96 UJ
Endrin Ketone	180,000	1.4 U	1.3 U	1.4 U	15 UJ	830 UJ	14 UJ	3 UJ	2700 UJ	14 UJ	14 UJ	1.5 UJ	1.4 UJ	1.5 UJ	1.6 U	1.3 UJ
Toxaphene	17,000	61 U	57 U	62 U	640 U	49000	590 U	130 U	83000	590 U	590 U	63 U	60 U	63 U	67 U	55 U

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).

Analyte amounts that exceed TRRP PCL value indicated by**bold font**.

U = The analyte was not detected above the reported detection limit.

* = Feet below ground surface.

J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

SO = Soil R = Replicate sample

HC = Helena Chemical

TABLE 1 (continued)
Organochlorine Pesticide Analytical Summary
Subsurface soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-23-2 1-2	HC-SO-23-3 2-3	HC-SO-23-4 3-4	HC-SO-23-5 4-5	HC-SO-24-1 0-1	HC-SO-24-2 1-2	HC-SO-24-2R 1-2	HC-SO-24-3 2-3	HC-SO-24-4 3-4	HC-SO-24-6 4-6	HC-SO-24-8 6-8
Analyte	TRRP Value^											
Alpha-BHC	2,900	5.8 J	26 J	8.8 UJ	2 J	160000 J	120000 J	8600 U	670 J	84 J	140 J	6.3 J
Gamma-BHC (Lindane)	18,000	0.98 UJ	0.98 UJ	9.9 UJ	0.46 U	18000 U	9900 U	65000 J	550 J	81 J	23 J	1 U
Beta-BHC	11,000	2.4 U	99 J	580 J	49 J	85000 J	140000 J	82000 J	2800 J	600 J	77 J	21 J
Delta-BHC	12,000	0.92 UJ	0.92 UJ	9.3 UJ	0.43 UJ	5000 J	9300 UJ	11000 J	47 UJ	10 UJ	2.4 UJ	0.96 UJ
Heptachlor	2,800	1.4 U	1.4 U	14 U	0.66 U	20000 J	14000 J	69 U	72 U	16 U	3.7 U	1.5 U
Aldrin	970	3.4 U	3.4 U	34 U	1.6 U	3000 J	170 U	170 U	170 U	38 U	8.8 U	3.5 U
Heptachlor Epoxide	1,900	1.2 U	1.2 U	12 U	0.57 U	57 U	62 U	61 U	63 U	14 U	3.2 U	1.3 U
Gamma-Chlordane	51,000	1.2 U	1.1 U	12 U	1.4 J	230000 J	76000 J	120000 J	2100	180 J	31 J	8.6 J
Alpha-Chlordane	54,000	1.2 U	1.2 U	12 U	0.56 U	200000 J	66000 J	100000 J	1900 J	130	26 J	4.6 J
4,4'-DDE	73,000	1.3 U	7.5 J	13 U	4.1 J	300000 J	130000 J	150000 J	2800 J	220 J	35 J	11 J
Endosulfan I	122,000	0.86 U	0.85 U	8.6 U	0.4 U	16000 U	8600 U	8400 U	44 U	9.5 U	2.2 U	0.88 U
Dieldrin	1,100	1.2 U	1.2 U	12 U	0.55 U	23000 J	11000 J	70000 J	60 U	13 U	3.1 U	1.2 U
Endrin	130,000	1.3 U	1.3 U	13 U	0.59 U	24000 U	13000 U	13000 U	65 U	14 U	3.3 U	1.3 U
4,4'-DDD	100,000	3 U	3 U	31 U	5.8 J	990000 J	300000 J	1200000 J	7500	1400 J	150 J	110 J
Endosulfan II	4,100,000	1.8 U	1.7 U	18 U	0.82 U	33000 U	18000 U	17000 U	89 U	19 U	4.5 U	1.8 U
4,4'-DDT	68,000	13 J	18 J	22 U	21	1900000	980000	130000 J	4700 J	340	190	24
Endrin Aldehyde	200,000	3.8 U	3.8 U	38 U	1.8 U	71000 U	38000 U	37000 U	190 U	42 U	9.8 U	3.9 U
Methoxychlor	3,000,000	10 U	10 U	100 U	4.7 U	190000 U	100000 U	99000 U	510 U	110 U	26 U	10 U
Endosulfan Sulfate	4,100,000	2.1 UJ	2.1 UJ	21 UJ	0.97 U	39000 U	21000 U	20000 U	110 U	23 U	5.4 U	2.1 U
Endrin Ketone	180,000	2.8 UJ	2.8 UJ	28 UJ	4.3 J	52000 U	28000 U	27000 U	140 U	31 U	7.2 U	2.9 U
Toxaphene	17,000	120 U	120 U	1200 U	55 U	5500 U	6000 U	5800 U	6100 U	1300 U	310 U	120 U

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).

Analyte amounts that exceed TRRP PCL value indicated by**bold font**.

U = The analyte was not detected above the reported detection limit.

* = Feet below ground surface.

HC = Helena Chemical

J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

SO = Soil

R = Replicate sample

TABLE 2
Organochlorine Pesticide Analytical Summary
Interior Wipe Samples
Concentrations in micrograms per sample unless noted

Sample ID#: Location:	HC-WP-NMP-NW-1 North mixing plant North wall	HC-WP-NMP-NW-02 North mixing plant North wall	HC-WP-NMP-SW-1 North mixing plant South wall	HC-WP-NMP-SW-2 North mixing plant South wall	HC-WP-NMP-EW-1 North mixing plant East wall	HC-WP-NMP-EW-2 North mixing plant East wall	HC-WP-NMP-EW-3 North mixing plant East wall	HC-WP-NMP-WW-01 North mixing plant West wall
Analyte								
Alpha-BHC	0.076 U	0.038 U J	0.019 U	0.076 U	0.076 U	0.076 U	0.076 U	2.5 J
Gamma-BHC (Lindane)	0.085 U	0.043 U J	0.021 U	0.085 U	0.085 U	0.085 U	0.085 U	0.43 U
Beta-BHC	0.21 U	0.1 U	0.052 U	0.21 U	0.21 U	0.21 U	0.21 U	1 U
Delta-BHC	0.08 U J	0.04 U J	0.02 U J	0.08 U J	0.08 U J	0.08 U J	0.08 U J	3.2 J
Heptachlor	0.12 U	0.061 U	0.031 U	0.12 U	0.12 U	0.12 U	0.12 U	0.61 U
Aldrin	0.3 U	0.15 U	0.074 U	0.3 U	0.3 U	0.3 U	0.3 U	1.5 U
Heptachlor Epoxide	0.11 U	0.053 U	0.027 U	0.11 U	0.11 U	0.11 U	0.11 U	0.53 U
Gamma-Chlordane	0.1 U	0.05 U	0.025 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
Alpha-Chlordane	0.1 U	0.052 U	0.026 U	0.1 U	0.1 U	0.1 U	0.1 U	0.52 U
4,4'-DDE	0.79 J	0.94 J	0.42 J	1.2 J	0.87 J	0.9 J	0.86 J	2.2 J
Endosulfan I	0.074 U	0.037 U	0.019 U	0.074 U	0.074 U	0.074 U	0.074 U	0.37 U
Dieldrin	0.1 U	0.051 U	0.026 U	0.1 U	0.1 U	0.1 U	0.1 U	0.51 U
Endrin	0.11 U	0.055 U	0.028 U	0.11 U	0.11 U	0.11 U	0.11 U	0.55 U
4,4'-DDD	0.61 J	0.68 J	0.21 J	0.81 J	0.52 J	0.5 J	0.51 J	4.3 J
Endosulfan II	0.15 U	0.076 U	0.038 U	0.15 U	0.15 U	0.15 U	0.15 U	0.76 U
4,4'-DDT	4.4	5	1.9 J	5	4.1	4	4.5 J	23
Endrin Aldehyde	0.33 U	0.16 U	0.082 U J	0.33 U	0.33 U	0.33 U	0.33 U	1.6 U
Methoxychlor	0.88 U	0.44 U	0.22 U J	0.88 U	0.88 U	0.88 U	0.88 U	4.4 U
Endosulfan Sulfate	0.18 U	0.09 U	0.045 U J	0.18 U	0.18 U	0.18 U	0.18 U	0.9 U
Endrin Ketone	0.24 U	0.12 U	0.06 U J	0.24 U	0.24 U	0.24 U	0.24 U	1.2 U J
Toxaphene	10 U	5.2 U	2.6 U J	10 U	10 U	10 U	10 U	52 U

HC = Helena Chemical
GP = Geoprobe
DCK = Dock

WP = Wipe
RS = Rinsate
TER = Terrace

NMP = North Mixing Plant
NW = North wall
J = The associated numerical

SMP = South Mixing Plant
SW = South wall
value is an estimated quantity because quality control criteria were not met.

WHS = Warehouse
EW = East wall
Presence of the analyte is reliable.

SHD = Shed
WW = West wall

TK = Tank
FLR = Floor

DR = DataRAM
CLN = Ceiling
R = Replicate sample

U = The analyte was not detected above the reported detection limit.
UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

TABLE 2 (continued)
Organochlorine Pesticide Analytical Summary
Interior Wipe Samples
Concentrations in micrograms per sample unless noted

Sample ID#: Location:	HC-WP-NMP-WW-02 North mixing plant West wall	HC-WP-NMP-WW-02R North mixing plant West wall	HC-WP-NMP-WW-03 North mixing plant West wall	HC-WP-NMP-FLR-01 North mixing plant Floor	HC-WP-NMP-FLR-02 North mixing plant Floor	HC-WP-NMP-FLR-03 North mixing plant Floor	HC-WP-NMP-FLR-04 North mixing plant Floor	HC-WP-NMP-FLR-05 North mixing plant Floor
Analyte								
Alpha-BHC	0.38 U	0.076 U J	0.38 U	0.76 U	0.38 U	0.76 U	0.76 U	0.76 U
Gamma-BHC (Lindane)	0.43 U	0.085 U J	0.43 U	0.85 U	0.43 U	0.85 U	0.85 U	0.85 U
Beta-BHC	1 U	0.21 U	1 U	2.1 U	1 U	2.1 U	2.1 U	2.1 U
Delta-BHC	2.6 J	0.08 U	0.4 U J	0.8 U J	0.4 U J	0.8 U J	0.8 U J	0.8 U J
Heptachlor	0.61 U	0.12 U	0.61 U	1.2 U	0.61 U	1.2 U	1.2 U	1.2 U
Aldrin	1.5 U	0.3 U	1.5 U	3 U	1.5 U	3 U	3 U	3 U
Heptachlor Epoxide	0.53 U	0.11 U	0.53 U	1.1 U	0.53 U	1.1 U	1.1 U	1.1 U
Gamma-Chlordane	0.5 U	0.1 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U
Alpha-Chlordane	0.52 U	0.1 U	0.52 U	1 U	0.52 U	1 U	1 U	1 U
4,4'-DDE	2.2 J	1 J	4.3 J	62 J	18 J	86 J	76 J	60 J
Endosulfan I	0.37 U	0.074 U	0.37 U	0.74 U	0.37 U	0.74 U	0.74 U	0.74 U
Dieldrin	0.51 U	0.1 U	0.51 U	10 J	5.6 J	1 U	1 U	1 U
Endrin	0.55 U	0.11 U	0.55 U	1.1 U	0.55 U	1.1 U	1.1 U	1.1 U
4,4'-DDD	4.2 J	0.91 J	7.7 J	2.6 U	6 J	7.3 J	17 J	13 J
Endosulfan II	0.76 U	0.15 U	0.76 U	1.5 U	0.76 U	1.5 U	1.5 U	1.5 U
4,4'-DDT	25	5.4	26	81	39	54	110	100
Endrin Aldehyde	1.6 U	0.33 U	1.6 U	3.3 U	1.6 U	3.3 U	3.3 U	3.3 U
Methoxychlor	4.4 U	0.88 U	4.4 U	8.8 U	4.4 U	8.8 U	8.8 U	8.8 U
Endosulfan Sulfate	0.9 U	0.18 U	0.9 U	1.8 U J	0.9 U J	1.8 U J	1.8 U J	1.8 U J
Endrin Ketone	1.2 U J	0.24 U	1.2 U J	2.4 U J	1.2 U J	2.4 U J	2.4 U J	2.4 U J
Toxaphene	52 U	10 U	52 U	100 U	52 U	100 U	100 U	100 U

HC = Helena Chemical
GP = Geoprobe
DCK = Dock
U = The analyte was not detected above the reported detection limit.

WP = Wipe
RS = Rinsate
TER = Terrace

NMP = North Mixing Plant
NW = North wall
J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

SMP = South Mixing Plant
SW = South wall
UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

WHS = Warehouse
EW = East wall

SHD = Shed
WW = West wall

TK = Tank
FLR = Floor

DR = DataRAM
CLN = Ceiling
R = Replicate sample

TABLE 2 (continued)
Organochlorine Pesticide Analytical Summary
Interior Wipe Samples
Concentrations in micrograms per sample unless noted

Sample ID#: Location:	HC-WP-NMP-FLR-06 North mixing plant Floor	HC-WP-NMP-CLN-01 North mixing plant Ceiling (ppb)	HC-WP-NMP-TER-1 North mixing plant Upper terrace	HC-WP-SMP-NW-01 South mixing plant North wall	HC-WP-SMP-NW-02 South mixing plant North wall	HC-WP-SMP-SW-01 South mixing plant South wall	HC-WP-SMP-SW-02 South mixing plant South wall	HC-WP-SMP-EW-01 South mixing plant East wall
Analyte								
Alpha-BHC	1.9 U	460 J	3.8 U	1.1 U	0.38 U	0.19 U	0.38 U	0.15 U
Gamma-BHC (Lindane)	2.1 U	85 U J	4.3 U	1.3 U	0.43 U	0.21 U	0.43 U	0.17 U
Beta-BHC	5.2 U	210 U	10 U	3.2 U	1 U	0.52 U	1 U	0.42 U
Delta-BHC	2 U J	870 J	4 U J	1.2 U J	0.4 U J	0.2 U J	0.4 U J	0.16 U J
Heptachlor	3.1 U	120 U	6.1 U	1.8 U	0.61 U	0.31 U	0.61 U	0.24 U
Aldrin	7.4 U	290 U	15 U	4.4 U	1.5 U	0.74 U	1.5 U	0.59 U
Heptachlor Epoxide	2.7 U	110 U	5.3 U	1.6 U	0.53 U	0.27 U	0.53 U	0.21 U
Gamma-Chlordane	2.5 U	100 U	5 U	67	0.5 U	0.25 U	0.5 U	0.2 U
Alpha-Chlordane	2.6 U	100 U	5.2 U	8.6 J	0.52 U	0.26 U	0.52 U	0.21 U
4,4'-DDE	110 J	1100 J	200 J	12 J	4.1 J	3 J	4.7 J	1.8 J
Endosulfan I	1.9 U	74 U	3.7 U	1.1 U	0.37 U	0.19 U	0.37 U	0.15 U
Dieldrin	2.6 U	100 U	5.1 U	12 J	0.51 U	0.26 U	0.51 U	0.21 U
Endrin	2.8 U	110 U	5.5 U	1.7 U	0.55 U	0.28 U	0.55 U	0.22 U
4,4'-DDD	24 J	1700 J	71 J	21 J	4.7 J	3.4 J	4.4 J	1.8 J
Endosulfan II	3.8 U	150 U	7.6 U	2.3 U	0.76 U	0.38 U	0.76 U	0.3 U
4,4'-DDT	160	9000	300 J	100	27	25	38 J	11
Endrin Aldehyde	8.2 U	330 U	16 U J	4.9 U	1.6 U	0.82 U	1.6 U	0.66 U
Methoxychlor	22 U	870 U	44 U J	13 U	4.4 U	2.2 U	4.4 U	1.8 U
Endosulfan Sulfate	4.5 U J	180 U	9 U J	2.7 U J	0.9 U J	0.45 U J	0.9 U J	0.36 U J
Endrin Ketone	6 U J	240 U	12 U J	3.6 U J	1.2 U J	0.6 U J	1.2 U J	0.48 U J
Toxaphene	260 U	10000 U	520 U	150 U	52 U	26 U	52 U	21 U

HC = Helena Chemical
GP = Geoprobe
DCK = Dock
U = The analyte was not detected above the reported detection limit.
ppb = Parts per billion

WP = Wipe
RS = Rinsate
TER = Terrace

NMP = North Mixing Plant
NW = North wall
J = The associated numerical value is an estimated quantity because quality control criteria were not met.

SMP = South Mixing Plant
SW = South wall
UJ = The reported quantitation limit is estimated because quality control criteria were not met.

WHS = Warehouse
EW = East wall

SHD = Shed
WW = West wall

TK = Tank
FLR = Floor

DR = DataRAM
CLN = Ceiling
R = Replicate sample

Presence of the analyte is reliable.
Analyte was not detected.

TABLE 2 (continued)
Organochlorine Pesticide Analytical Summary
Interior Wipe Samples
Concentrations in micrograms per sample unless noted

Sample ID#: Location:	HC-WP-SMP-WW-01 South mixing plant West wall	HC-WP-SMP-FLR-01 South mixing plant Floor	HC-WP-SMP-FLR-01R South mixing plant Floor	HC-WP-SMP-FLR-02 South mixing plant Floor	HC-WP-SMP-CLN-01 South mixing plant Ceiling (ppb)	HC-WP-SMP-DCK-01 South mixing plant Exterior dock	HC-WP-SMP-DCK-02 South mixing plant Exterior dock	HC-WP-WHS-NW-01 Warehouse North wall
Analyte								
Alpha-BHC	0.38 U	1.5 U	0.76 U	1.5 U	3200 J	0.15 U	0.038 U	0.15 U
Gamma-BHC (Lindane)	0.43 U	1.7 U	0.85 U	1.7 U	2300 J	0.17 U	0.043 U	0.17 U
Beta-BHC	1 U	4.2 U	2.1 U	4.2 U	1600 J	0.42 U	0.1 U	1.5 J
Delta-BHC	0.4 U J	1.6 U J	0.8 U J	1.6 U J	4900 J	0.16 U J	0.31 J	0.16 U J
Heptachlor	0.61 U	2.4 U	1.2 U	2.4 U	250 J	0.24 U	0.061 U	0.24 U
Aldrin	1.5 U	5.9 U	3 U	5.9 U	54 U	0.59 U	0.15 U	0.59 U
Heptachlor Epoxide	0.53 U	2.1 U	1.1 U	2.1 U	20 U	0.21 U	0.053 U	0.21 U
Gamma-Chlordane	0.5 U	2 U	1 U	2 U	550 U	3.4 J	0.74 J	0.2 U
Alpha-Chlordane	0.52 U	2.1 U	1 U	2.1 U	570 U	0.21 U	0.055 J	0.21 U
4,4'-DDE	3.5 J	31 J	20 J	32 J	2500 J	18 J	0.55 J	3.6 J
Endosulfan I	0.37 U	1.5 U	0.74 U	1.5 U	410 U	0.15 U	0.037 U	0.15 U
Dieldrin	0.51 U	2.1 U	1 U	2.1 U	560 U	2.2 J	0.051 U	0.21 U
Endrin	0.55 U	2.2 U	1.1 U	2.2 U	610 U	7.2 J	0.055 U	0.22 U
4,4'-DDD	3.5 J	19 J	14 J	17 J	7100 J	2.1 J	0.66 J	2.3 J
Endosulfan II	0.76 U	3 U	1.5 U	3 U	840 U	0.3 U	0.076 U	0.3 U
4,4'-DDT	22	140	98	120	35000	8.2 J	3 J	8 J
Endrin Aldehyde	1.6 U	6.6 U	3.3 U	6.6 U	1800 U	0.66 U J	0.16 U J	0.66 U J
Methoxychlor	4.4 U	18 U	8.8 U	18 U	4800 U	1.8 U J	0.44 U J	1.8 U J
Endosulfan Sulfate	0.9 U J	3.6 U J	1.8 U J	3.6 U J	990 U	0.36 U J	0.09 U J	0.36 U J
Endrin Ketone	1.2 U J	4.8 U J	2.4 U J	4.8 U J	1300 U	0.48 U J	0.12 U J	0.48 U J
Toxaphene	52 U	210 U	100 U	210 U	39000 J	21 U	5.2 U	21 U

HC = Helena Chemical
GP = Geoprobe
DCK = Dock
U = The analyte was not detected above the reported detection limit.
ppb = Parts per billion

WP = Wipe
RS = Rinsate
TER = Terrace

NMP = North Mixing Plant
NW = North wall
J = The associated numerical value is an estimated quantity because quality control criteria were not met.

SMP = South Mixing Plant
SW = South wall
UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

WHS = Warehouse
EW = East wall

SHD = Shed
WW = West wall

TK = Tank
FLR = Floor

DR = DataRAM
CLN = Ceiling
R = Replicate sample

TABLE 2 (continued)
Organochlorine Pesticide Analytical Summary
Interior Wipe Samples
Concentrations in micrograms per sample unless noted

Sample ID#: Location:	HC-WP-WHS-SW-01 Warehouse South wall	HC-WP-WHS-EW-01 Warehouse East wall	HC-WP-WHS-WW-01 Warehouse West wall	HC-WP-WHS-FLR-01 Warehouse Floor	HC-WP-WHS-CLN-01 Warehouse Ceiling	HC-WP-SHD-1 Shed All walls, floor, ceiling	HC-TK-01 Above ground storage tank (ppb)	HC-DR-495 Ambient air south sampler	HC-DR-496 Ambient air north sampler	HC-GP-RS-1 Equipment rinsate (ppb)
Analyte										
Alpha-BHC	0.076 U	0.076 U	0.38 U	0.76 U	0.0038 U	1.1 J	3.7 U J	0.0038 U	0.0038 U	0.028 J
Gamma-BHC (Lindane)	0.085 U	0.085 U	0.43 U	0.85 U	0.0043 U	0.17 U	4.2 U J	0.0043 U	0.0043 U	0.0052 U
Beta-BHC	0.64 J	0.21 U	5.8 J	2.1 U	0.01 U	0.42 U	10 U J	0.01 U	0.01 U	0.0079 U
Delta-BHC	0.08 U J	0.08 U J	0.4 U J	0.8 U J	0.032 J	1.3 J	4 U J	0.004 U	0.004 U	0.0045 U J
Heptachlor	0.12 U	0.12 U	0.61 U	1.2 U	0.0061 U	0.24 U	6.1 U J	0.0061 U	0.0061 U	0.005 U
Aldrin	0.3 U	0.3 U	1.5 U	3 U	0.015 U	0.59 U	15 U J	0.015 U	0.015 U	0.0083 U
Heptachlor Epoxide	0.11 U	0.11 U	0.53 U	1.1 U	0.0053 U	0.21 U	5.3 U J	0.0053 U	0.0053 U	0.0046 U
Gamma-Chlordane	0.1 U	0.1 U	0.5 U	1 U	0.005 U	0.2 U	5 U J	0.005 U	0.005 U	0.0044 U
Alpha-Chlordane	0.1 U	0.1 U	0.52 U	1 U	0.0052 U	0.21 U	5.2 U J	0.0052 U	0.0052 U	0.0053 U
4,4'-DDE	3.5 J	3.9 J	37 J	63 J	0.19 J	4.9 J	5.7 U J	0.0057 U	0.0057 U	0.0045 U
Endosulfan I	0.074 U	0.074 U	0.37 U	0.74 U	0.0037 U	0.15 U	3.7 U J	0.0037 U	0.0037 U	0.0041 U
Dieldrin	0.1 U	0.1 U	0.51 U	1 U	0.0051 U	0.21 U	5.1 U J	0.0051 U	0.0051 U	0.0039 U
Endrin	0.11 U	0.11 U	0.55 U	1.1 U	0.0055 U	0.22 U	6.6 J	0.0055 U	0.0055 U	0.0045 U
4,4'-DDD	1.3 J	1.1 J	6 J	21 J	0.062 J	2.3 J	13 U J	0.013 U	0.013 U	0.046 J
Endosulfan II	0.15 U	0.15 U	0.76 U	1.5 U	0.0076 U	0.3 U	7.6 U J	0.0076 U	0.0076 U	0.0064 U
4,4'-DDT	5.8 J	6 J	29	80 J	0.62	12 J	9.2 U J	0.0093 U	0.0093 U	0.085 J
Endrin Aldehyde	0.33 U J	0.33 U J	1.6 U	3.3 U J	0.016 U	0.66 U J	16 U J	0.016 U	0.016 U	0.0051 U
Methoxychlor	0.88 U J	0.88 U J	4.4 U	8.8 U J	0.044 U	1.8 U J	43 U J	0.044 U	0.044 U	0.015 U
Endosulfan Sulfate	0.18 U J	0.18 U J	0.9 U	1.8 U J	0.009 U	0.36 U J	9 U J	0.009 U	0.009 U	0.01 U
Endrin Ketone	0.24 U J	0.24 U J	1.2 U	2.4 U J	0.012 U	0.48 U J	12 U J	0.012 U	0.012 U	0.011 U
Toxaphene	10 U	10 U	52 U	100 U	0.52 U	21 U	510 U J	0.52 U	0.52 U	0.43 U

HC = Helena Chemical WP = Wipe NMP = North Mixing Plant SMP = South Mixing Plant WHS = Warehouse SHD = Shed TK = Tank DR = DataRAM
GP = Geoprobe RS = Rinsate NW = North wall SW = South wall EW = East wall WW = West wall FLR = Floor CLN = Ceiling
DCK = Dock TER = Terrace J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable. R = Replicate sample
U = The analyte was not detected above the reported detection limit. UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.
ppb = Parts per billion

TABLE 1 (continued)
Organochlorine Pesticide Analytical Summary
Subsurface soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-17-2 1-2	HC-SO-17-3 2-3	HC-SO-17-4 3-4	HC-SO-18-1 0-1	HC-SO-18-2 1-2	HC-SO-18-3 2-3	HC-SO-18-4 3-4	HC-SO-19-1 0-1	HC-SO-19-2 1-2	HC-SO-19-3 2-3	HC-SO-19-4 3-4	HC-SO-20-1 0-1	HC-SO-20-2 1-2	HC-SO-20-3 2-3	HC-SO-20-4 3-4
Analyte	TRRP Value^															
Alpha-BHC	29,000	0.89 U	0.47 U	0.47 U	16 U	0.81 U	0.88 U	0.46 U	4200 U	2.1 U	8.6 U	0.45 U	2.1 U	0.41 U	0.44 U	0.44 U
Gamma-BHC (Lindane)	18,000	1 U	0.53 U	0.53 U	18 U	0.91 U	0.99 U	0.52 U	4800 U	2.4 U	9.7 U	0.5 U	2.4 U	0.47 U	0.5 U	0.49 U
Beta-BHC	11,000	97 J	1.3 U	1.3 U	45 U	42 J	140 J	1.3 U	22000 J	230 J	670	80	5.9 U	9.9 J	1.2 U	1.2 U
Delta-BHC	12,000	0.94 UJ	0.5 UJ	0.5 U	17 UJ	0.86 UJ	0.93 UJ	0.49 U	4500 UJ	2.3 UJ	9.2 U	0.47 U	2.2 UJ	0.44 U	0.47 U	0.46 U
Heptachlor	2,800	1.4 U	0.76 U	0.76 U	26 U	1.3 U	1.4 U	0.75 U	4600	3.4 U	14 U	0.72 U	3.4 U	0.67 U	0.71 U	0.71 U
Aldrin	970	3.5 U	1.8 U	1.8 U	64 U	3.2 U	3.4 U	1.8 U	170 U	8.3 U	34 U	1.7 U	8.3 U	1.6 U	1.7 U	1.7 U
Heptachlor Epoxide	1,900	1.3 U	0.66 U	0.66 U	23 U	1.1 U	1.2 U	0.65 U	60 U	3 U	12 U	0.63 U	3 U	0.58 U	0.62 U	0.62 U
Gamma-Chlordane	51,000	1.2 U	0.62 U	0.62 U	22 U	1.1 U	1.2 U	0.61 U	5600 U	2.8 U	11 U	10 J	2.8 U	0.55 U	0.58 U	0.58 U
Alpha-Chlordane	54,000	1.2 U	0.64 U	0.65 U	22 U	1.1 U	1.2 U	0.64 U	5900 U	2.9 U	12 U	8.9 J	2.9 U	0.57 U	0.61 U	0.6 U
4,4'-DDE	73,000	1.3 U	13 J	0.71 U	1700 J	21 J	6.2 J	1.7 J	84000 J	66 J	70 J	63 J	220 J	12 J	2.4 J	2.8 J
Endosulfan I	122,000	0.87 U	0.46 U	0.46 U	16 U	0.79 U	0.86 U	0.46 U	4200 U	2.1 U	8.5 U	0.44 U	2.1 U	0.41 U	0.43 U	0.43 U
Dieldrin	1,100	1.2 U	0.63 U	0.64 U	730 J	61	20	0.63 U	62000 J	55 J	12 U	43	60 J	17	0.6 U	0.59 U
Endrin	130,000	1.3 U	0.68 U	0.69 U	24 U	6.9 J	1.3 U	0.68 U	6200 U	3.1 U	13 U	21 J	3.1 U	0.6 U	0.64 U	0.64 U
4,4'-DDD	100,000	3.1 U	4.8 J	1.6 U	190 J	2.8 U	3.1 U	1.6 U	100000 J	51 J	30 U	1.6 U	63 J	1.4 U	1.5 U	1.5 U
Endosulfan II	4,100,000	1.8 U	0.94 U	0.95 U	33 U	1.6 U	1.8 U	0.93 U	13000 J	4.3 U	17 U	0.9 U	4.3 U	0.83 U	0.89 U	0.88 U
4,4'-DDT	68,000	13 J	43	8.2 J	700	13 J	2.2 U	10 J	350000	180	190 J	55	340	6.2 J	1.1 U	7.4 J
Endrin Aldehyde	200,000	3.9 U	2 U	2.1 U	71 U	3.5 U	3.8 U	2 U	18000 U	9.2 U	38 U	1.9 U	9.2 U	1.8 U	1.9 U	1.9 U
Methoxychlor	3,000,000	10 U	5.4 U	5.5 U	190 U	9.3 U	10 U	5.4 U	49000 U	25 U	100 U	6.8 J	25 U	4.8 U	5.1 U	5.1 U
Endosulfan Sulfate	4,100,000	2.1 U	1.1 U	1.1 U	39 U	1.9 U	2.1 U	1.1 U	10000 U	5.1 U	21 U	1.1 U	34 J	0.99 U	1.1 U	1 U
Endrin Ketone	180,000	2.8 U	1.5 U	1.5 U	52 U	2.6 U	2.8 U	1.5 U	14000 U	22 J	27 U	8.1 J	6.7 U	1.3 U	1.4 U	1.4 U
Toxaphene	17,000	120 U	64 U	64 U	2200 U	110 U	120 U	63 U	1700000	290 U	1200 U	61 U	290 U	56 U	60 U	60 U

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).

Analyte amounts that exceed TRRP PCL value indicated by**bold font**.

U = The analyte was not detected above the reported detection limit.

* = Feet below ground surface.

J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

SO = Soil R = Replicate sample

TABLE 1 (continued)
Organochlorine Pesticide Analytical Summary
Subsurface soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-20-6 4-6	HC-SO-20-8 6-8	HC-SO-20-10 8-10	HC-SO-21-1 0-1	HC-SO-21-2 1-2	HC-SO-21-3 2-3	HC-SO-21-4 3-4	HC-SO-22-1 0-1	HC-SO-22-2 1-2	HC-SO-22-3 2-3	HC-SO-22-4 3-4	HC-SO-22-6 4-6	HC-SO-22-8 6-8	HC-SO-22-10 8-10	HC-SO-23-1 0-1
Analyte	TRRP Value^															
Alpha-BHC	29,000	0.44 U	0.42 U	0.45 U	4.7 UJ	260 UJ	4.3 UJ	0.96 UJ	860 UJ	4.4 UJ	4.3 UJ	5.8 J	2.8 J	0.46 UJ	0.49 UJ	0.4 UJ
Gamma-BHC (Lindane)	18,000	0.5 U	0.47 U	0.51 U	5.3 UJ	300 UJ	4.8 UJ	1.1 UJ	970 UJ	4.9 UJ	4.9 UJ	0.52 UJ	0.49 UJ	0.52 UJ	0.56 UJ	0.45 UJ
Beta-BHC	11,000	29	1.2 U	1.3 U	190 J	9600 J	12 UJ	2.7 UJ	2400 UJ	79 J	12 U	8.3 J	1.2 U	1.3 U	1.4 U	1.1 U
Delta-BHC	12,000	0.47 U	0.44 U	0.48 U	5 UJ	280 UJ	4.6 UJ	1 UJ	910 UJ	4.6 UJ	4.6 UJ	0.49 UJ	0.47 UJ	0.49 UJ	0.53 UJ	0.43 UJ
Heptachlor	2,800	0.72 U	0.67 U	0.73 U	7.6 U	420 U	7 U	1.5 U	1400 U	7.1 U	7 U	0.74 U	0.71 U	0.74 U	0.8 U	0.65 U
Aldrin	970	1.7 U	1.6 U	1.8 U	18 UJ	420 J	17 UJ	3.7 UJ	170 U	17 UJ	17 U	1.8 U	1.7 U	1.8 U	1.9 U	1.6 U
Heptachlor Epoxide	1,900	0.63 U	0.59 U	0.64 U	6.6 U	370 U	6.1 U	1.3 U	1200 UJ	6.2 U	6.1 U	0.65 U	0.62 U	0.65 U	0.7 U	0.57 U
Gamma-Chlordane	51,000	0.59 U	0.55 U	0.6 U	6.2 U	350 U	5.7 U	1.3 U	1100 U	5.8 U	5.7 U	0.61 U	0.58 U	0.61 U	0.65 U	0.53 U
Alpha-Chlordane	54,000	0.61 U	0.58 U	0.62 U	6.5 U	360 U	5.9 U	1.3 U	1200 U	6 U	6 U	0.64 U	0.61 U	0.63 U	0.68 U	0.56 U
4,4'-DDE	73,000	0.67 U	0.63 U	0.68 U	190 J	18000 J	180 J	100 J	6800 J	77 J	89 J	8.1 J	1.5 J	0.69 U	0.74 U	2.6 J
Endosulfan I	122,000	0.44 U	0.41 U	0.44 U	4.6 U	260 U	4.2 U	0.94 U	850 U	4.3 U	4.2 U	0.45 U	0.43 U	0.45 U	0.49 U	0.4 U
Dieldrin	1,100	0.6 U	0.57 U	0.61 U	6.4 U	4700 J	5.8 U	1.3 U	5400 J	76 J	77 J	13 J	0.59 U	0.62 U	0.67 U	0.55 U
Endrin	130,000	0.65 U	0.61 U	0.66 U	6.9 U	380 U	6.3 U	1.4 U	1300 U	6.4 U	6.3 U	0.67 U	0.64 U	0.67 U	0.72 U	0.59 U
4,4'-DDD	100,000	1.5 U	1.5 U	1.6 U	16 UJ	15000 J	15 UJ	3.3 UJ	3000 UJ	15 UJ	15 U	1.6 U	1.5 U	1.6 U	1.7 U	1.4 U
Endosulfan II	4,100,000	0.89 U	0.84 U	0.91 U	9.5 U	530 U	8.7 U	1.9 U	1700 U	8.8 U	8.7 U	0.93 U	0.88 U	0.93 U	1 U	0.81 U
4,4'-DDT	68,000	1.1 U	1 U	1.1 U	66	13000	65	43	49000	220	280	34	10	1.1 U	7.5 J	7.8 J
Endrin Aldehyde	200,000	1.9 U	1.8 U	2 U	21 U	1100 U	19 U	4.2 U	3700 U	19 U	19 U	2 U	1.9 U	2 U	2.2 U	1.8 U
Methoxychlor	3,000,000	5.1 U	4.8 U	5.2 U	55 U	3000 U	50 U	11 U	10000 U	50 U	50 U	5.3 U	5.1 U	5.3 U	5.7 U	4.7 U
Endosulfan Sulfate	4,100,000	1.1 U	0.99 U	1.1 U	11 UJ	630 UJ	10 UJ	2.3 UJ	2100 UJ	10 UJ	10 UJ	4.4 J	1 UJ	1.1 UJ	1.2 U	0.96 UJ
Endrin Ketone	180,000	1.4 U	1.3 U	1.4 U	15 UJ	830 UJ	14 UJ	3 UJ	2700 UJ	14 UJ	14 UJ	1.5 UJ	1.4 UJ	1.5 UJ	1.6 U	1.3 UJ
Toxaphene	17,000	61 U	57 U	62 U	640 U	49000	590 U	130 U	83000	590 U	590 U	63 U	60 U	63 U	67 U	55 U

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).

Analyte amounts that exceed TRRP PCL value indicated by**bold font**.

U = The analyte was not detected above the reported detection limit.

* = Feet below ground surface.

J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

SO = Soil R = Replicate sample

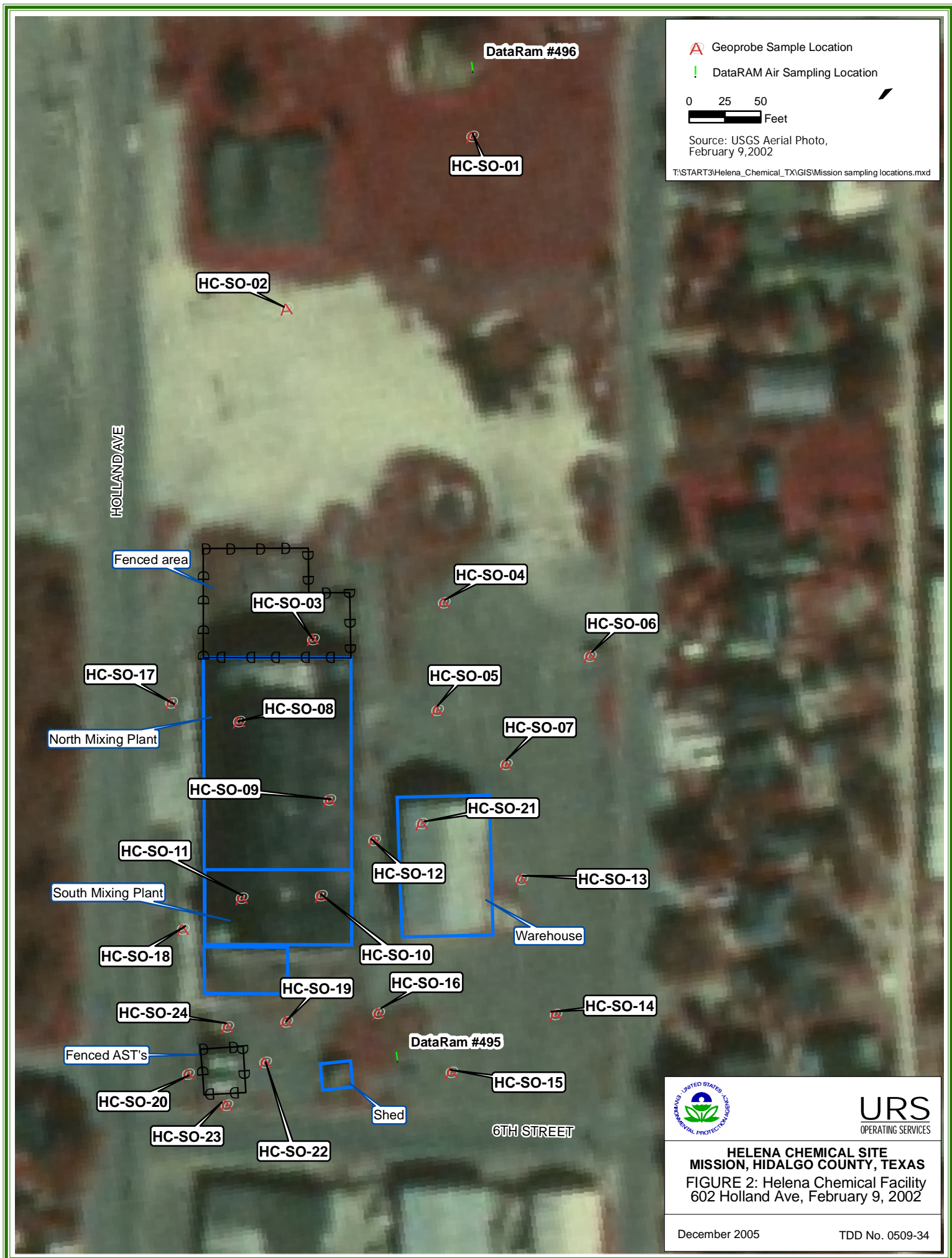


TABLE 1 (continued)
Organochlorine Pesticide Analytical Summary
Subsurface soils
Concentrations in parts per billion

	Sample ID#: Depth*:	HC-SO-23-2 1-2	HC-SO-23-3 2-3	HC-SO-23-4 3-4	HC-SO-23-5 4-5	HC-SO-24-1 0-1	HC-SO-24-2 1-2	HC-SO-24-2R 1-2	HC-SO-24-3 2-3	HC-SO-24-4 3-4	HC-SO-24-6 4-6	HC-SO-24-8 6-8
Analyte	TRRP Value^											
Alpha-BHC	29,000	5.8 J	26 J	8.8 UJ	2 J	160000 J	120000 J	8600 U	670 J	84 J	140 J	6.3 J
Gamma-BHC (Lindane)	18,000	0.98 UJ	0.98 UJ	9.9 UJ	0.46 U	18000 U	9900 U	65000 J	550 J	81 J	23 J	1 U
Beta-BHC	11,000	2.4 U	99 J	580 J	49 J	85000 J	140000 J	82000 J	2800 J	600 J	77 J	21 J
Delta-BHC	12,000	0.92 UJ	0.92 UJ	9.3 UJ	0.43 UJ	5000 J	9300 UJ	11000 J	47 UJ	10 UJ	2.4 UJ	0.96 UJ
Heptachlor	2,800	1.4 U	1.4 U	14 U	0.66 U	20000 J	14000 J	69 U	72 U	16 U	3.7 U	1.5 U
Aldrin	970	3.4 U	3.4 U	34 U	1.6 U	3000 J	170 U	170 U	170 U	38 U	8.8 U	3.5 U
Heptachlor Epoxide	1,900	1.2 U	1.2 U	12 U	0.57 U	57 U	62 U	61 U	63 U	14 U	3.2 U	1.3 U
Gamma-Chlordane	51,000	1.2 U	1.1 U	12 U	1.4 J	230000 J	76000 J	120000 J	2100	180 J	31 J	8.6 J
Alpha-Chlordane	54,000	1.2 U	1.2 U	12 U	0.56 U	200000 J	66000 J	100000 J	1900 J	130	26 J	4.6 J
4,4'-DDE	73,000	1.3 U	7.5 J	13 U	4.1 J	300000 J	130000 J	150000 J	2800 J	220 J	35 J	11 J
Endosulfan I	122,000	0.86 U	0.85 U	8.6 U	0.4 U	16000 U	8600 U	8400 U	44 U	9.5 U	2.2 U	0.88 U
Dieldrin	1,100	1.2 U	1.2 U	12 U	0.55 U	23000 J	11000 J	70000 J	60 U	13 U	3.1 U	1.2 U
Endrin	130,000	1.3 U	1.3 U	13 U	0.59 U	24000 U	13000 U	13000 U	65 U	14 U	3.3 U	1.3 U
4,4'-DDD	100,000	3 U	3 U	31 U	5.8 J	990000 J	300000 J	1200000 J	7500	1400 J	150 J	110 J
Endosulfan II	4,100,000	1.8 U	1.7 U	18 U	0.82 U	33000 U	18000 U	17000 U	89 U	19 U	4.5 U	1.8 U
4,4'-DDT	68,000	13 J	18 J	22 U	21	1900000	980000	130000 J	4700 J	340	190	24
Endrin Aldehyde	200,000	3.8 U	3.8 U	38 U	1.8 U	71000 U	38000 U	37000 U	190 U	42 U	9.8 U	3.9 U
Methoxychlor	3,000,000	10 U	10 U	100 U	4.7 U	190000 U	100000 U	99000 U	510 U	110 U	26 U	10 U
Endosulfan Sulfate	4,100,000	2.1 UJ	2.1 UJ	21 UJ	0.97 U	39000 U	21000 U	20000 U	110 U	23 U	5.4 U	2.1 U
Endrin Ketone	180,000	2.8 UJ	2.8 UJ	28 UJ	4.3 J	52000 U	28000 U	27000 U	140 U	31 U	7.2 U	2.9 U
Toxaphene	17,000	120 U	120 U	1200 U	55 U	5500 U	6000 U	5800 U	6100 U	1300 U	310 U	120 U

^ = Texas Risk Reduction Program Rule (April 12, 2005). Tier 1 Commercial/Industrial Soil Protective Concentration Level for a 30-acre source area (inhalation, ingestion, and dermal pathways).

Analyte amounts that exceed TRRP PCL value indicated by**bold font**.

U = The analyte was not detected above the reported detection limit.

* = Feet below ground surface.

HC = Helena Chemical

J = The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.

UJ = The reported quantitation limit is estimated because quality control criteria were not met. Analyte was not detected.

SO = Soil

R = Replicate sample

Legend

A Geoprobe Sample Location

ND Not Detected

Contours are in Parts Per Billion (ppb).

Dieldrin Protective Concentration
Level = 1100 ppb

0 25 50
Feet

Source: USGS Aerial Photo,
February 9, 2002



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FIGURE 10: Isopleth Map of Dieldrin
Observations 0-1 ft
below ground surface (bgs)

December 2005

TDD No. 0509-34

Legend

A Geoprobe Sample Location

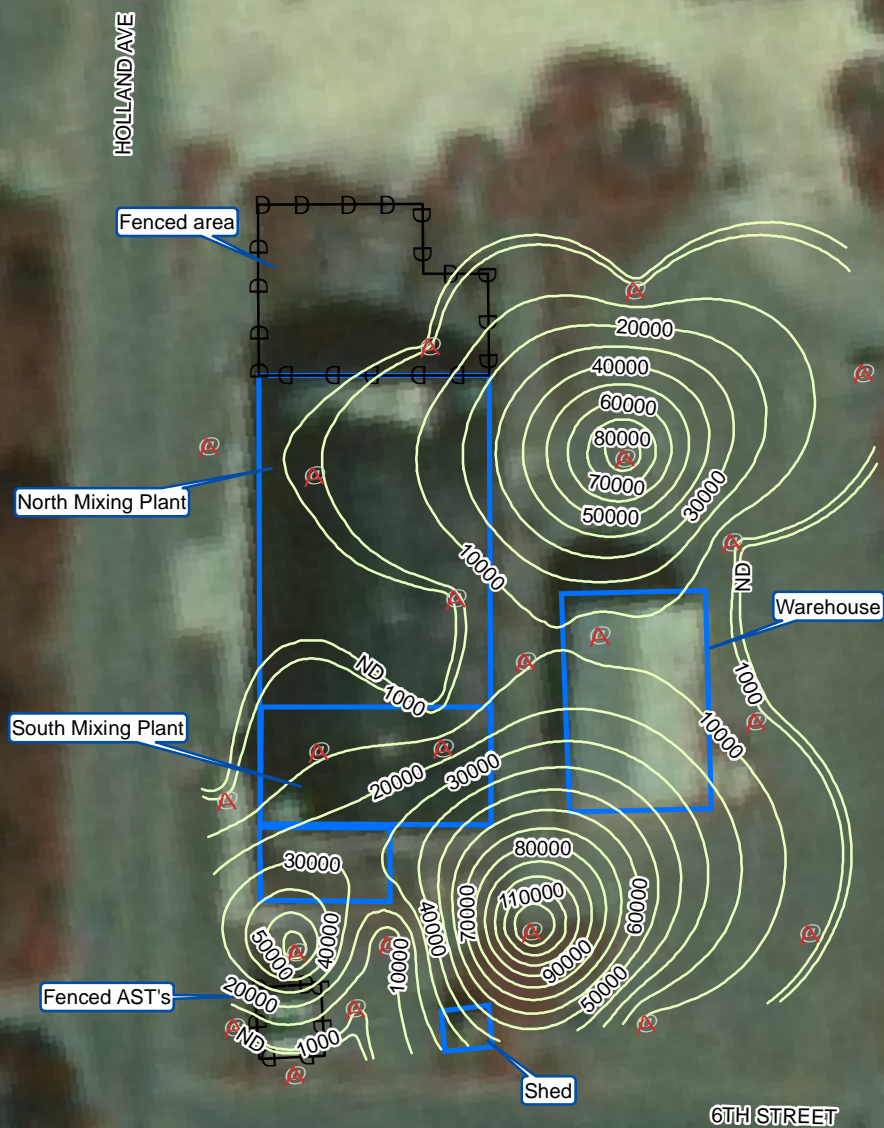
ND Not Detected

Contours are in Parts Per Billion (ppb).

Dieldrin Protective Concentration
Level = 1100 ppb

0 25 50
Feet

Source: USGS Aerial Photo,
February 9, 2002



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FIGURE 11: Isopleth Map of Dieldrin
Observations 1-2 ft
below ground surface (bgs)

December 2005

TDD No. 0509-34

Legend

A Geoprobe Sample Location

ND Not Detected

Contours are in Parts Per Billion (ppb).

Dieldrin Protective Concentration
Level = 1100 ppb

0 25 50
Feet

Source: USGS Aerial Photo,
February 9, 2002



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**FIGURE 12: Isopleth Map of Dieldrin
Observations 2-3 ft
below ground surface (bgs)**

December 2005

TDD No. 0509-34

Legend

 Geoprobe Sample Location

ND Not Detected

Contours are in Parts Per Billion (ppb).

Dieldrin Protective Concentration
Level = 1100 ppb

0 25 50

 Feet

Source: USGS Aerial Photo,
February 9, 2002



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FIGURE 13: Isopleth Map of Dieldrin
Observations 3-4 ft
below ground surface (bgs)

December 2005

TDD No. 0509-34